

**Exhibition Design and
The Evolution of Museum-goer Experience,
1924 - 2016.**

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Introduction

Over the course of the last two hundred years the relationship between the museum and the museum-goer has changed markedly. Museum directors and, notably, exhibition designers, have, in a sense, given greater authority to viewers to ascribe their own meaning to objects by providing more information about artworks and objects on display. Contemporary museums strive to be more inclusive places than the early so-called universal survey museums.¹ Today's museums employ new technologies such as smartphone apps, social media and virtual tours to expand their audiences. This thesis explores how museums and exhibition design has evolved over time to make art and design objects ever more accessible to individual appreciation, interpretation and enjoyment.

Exhibition designers have played an especially pivotal role in this evolution. Ivan Karp, writing in 1991 in *Exhibiting Cultures. The Poetics and Politics of Museum Display*, states that, “perhaps the most powerful agents in the construction of identity appear to be neither the producers of objects nor the audience but the exhibition makers themselves, who have the power to mediate among parties who will not come into face-to-face contact.”² Exhibition designers have used the interior spaces of architectural structures, built display furniture and showcases, developed graphics and other communication tools to identify and explain objects and artwork, and, in recent years, have embraced digital technology – all in an effort to forge a relationship between the viewer and object, or ascribe meaning to that which is on display.

In this thesis I examine the changing relationship between the museum and the museum-goer and the presentation of the object to the viewer via the institution, paying

particular attention to the evolution of exhibition design. I have constructed a lineage from the birth of the public art museum at the Louvre in 1793 up to present-day museums' use of digital tools and cyberspace to personalize or individualize the museum experience. This lineage integrates the impact of modern art movements in Europe in the early twentieth century – De Stijl, the Bauhaus, Constructivism and Futurism – as revolutionary movements that paralleled discussions among museum directors as to the purpose of their institutions and how best to present art and design to their visitors. Museums originally founded and funded by the upper-classes were often used to enhance individual social standing and used art as a reflection of wealth and culture, the better to highlight the social distinction of the educated and worldly. The modern movements challenged such class distinctions; artists and designers aligned with these movements sought new ways to present a broader definition of the arts. New developments in stagecraft emerged concurrently with these modern movements –in many cases by artists and designers engaged in both stage and exhibition design– to become a significant factor in redefining the museum-goer experience. I emphasize artists, designers and architects such as Frederick Kiesler, El Lissitzky, and László Moholy-Nagy, and their involvement with both stagecraft and exhibition design as integrated developments in these modern movements.

The changing ethos of museums can also be attributed to the contributions of significant museum directors. I address the contributions of Alexander Dorner, Willem Sandberg and Alfred H. Barr, Jr. as directors who not only contextualized art and design in new ways for their museum visitors, but also emphasized the socialization and democratization of the museum experience by viewing the museum as a part of the

community in which it is placed. From the early practitioners' activation of the three-dimensional space of a museum, to the use of digital technology today, exhibition designers, now working in conjunction with web designers, have shifted the means of viewer engagement away from the paradigm of the museum as authority by providing the data with which the individual museum-goer can create his or her own relationship with objects displayed.

I conclude by examining the digital platforms that continue to modify and alter the relationship between the museum-goer and institution, such as Cooper Hewitt, Smithsonian Design Museum and its pen technology. This relationship between the museum and the museum-goer is inevitably affected by capitalism and is postmodern in its reach—that is, it is necessarily affected by an institution's desire to maintain both its financial viability as well as its societal importance not solely through its holdings but also by means of demonstrating significant attendance figures. But whether energized by economic goals or by a more meaningful desire to expand the audience for art, by offering an enriched and individualized visitor experience, museums and exhibition designers continue to play a vital role in making art integral to contemporary life.

Chapter 1

The Rise of the Universal Survey Museum

The advent of what we know today as the public art museum began in Europe in the first half of the nineteenth century. Carol Duncan and Alan Wallach define this type of institution as the “universal survey museum” and describe them as “the most prestigious and authoritative place(s) for seeing original works of art.”³ These institutions present a broad range of art and artifacts that are typically organized chronologically, geographically and by category (painting, metalwork, statuary, etc.), and are housed within grand architectural edifices, their interiors divided into individual galleries or spaces scaled to house a particular collection of artifacts.

Several collections of objects and artwork in Europe with public access pre-date the nineteenth century, notably The Musei Capitolini, founded in Rome in 1471 with a gift of bronze statues from Pope Sixtus IV to the people of the city; it opened to the public in 1734, and serves as a precursor to the universal survey museum. The Statuario Pubblico, a two-hundred-piece collection of antique statuary housed in Biblioteca Marciana in Venice opened in 1593,⁴ and the Ashmolean Museum, an art and archeologically-focused repository, at the University of Oxford opened in 1683. The British Museum opened to the public in 1759, but in its earliest incarnation, the museum was primarily a library and housed the collected scientific curiosities of Sir Hans Sloane, who bequeathed his holdings to King George II in return for a £20,000 payment to his heirs. The Uffizi Gallery, the collected holdings of the Medici family in Florence, opened to the public in 1765.

These early museums allowing public access were exceptions to eighteenth-

century norms. Collections of art and objects were typically held in private facilities – royal estates, the homes of wealthy bankers and merchants, and religious institutions – and could be viewed by those outside of a particular domain only as a guest or with a letter of introduction. Upper-class young men who were traveling across Europe on a Grand Tour to experience art and culture and refine their aristocratic tastes held many of these letters. Their journals and diaries were often published and became benchmarks for the sophisticated observation of art and architecture. The English novelist William Thomas Beckford made a Grand Tour in 1780, at the age of twenty, and in 1783 published his letters home as *Dreams, Waking Thoughts, and Incidents; In a Series of Letters From Various Parts of Europe*. An excerpt from his stay in Antwerp:

First, I went to Monsieur Van Lencren's, who possesses a suite of apartments, lined, from the base to the cornice, with the rarest productions of the Flemish school. Heavens forbid I should enter into a detail of their niceties! I might as well count the dew-drops upon any of Van Huysen's flower-pieces, or the pimples on their possessor's countenance; a very good sort of man, indeed; but from whom I was not at all sorry to be delivered.

My joy was, however, of short duration, as a few minutes brought me into the courtyard of the Chanoin Knyfe's habitation; a snug abode, well furnished with easy chairs and orthodox couches. After viewing the rooms on the first floor, we mounted a gentle staircase, and entered an ante-chamber, which those who delight in the imitations of art rather than of nature, in the likenesses of joint stools and the portraits of tankards, would esteem most capitally adorned: but it must be confessed, that, amongst these uninteresting performances, are dispersed a few striking Berghems and agreeable Polemburgs. In the gallery adjoining, two or three Rosa de Tivolis merit observation; and a large Teniers, representing a St. Anthony surrounded by a malicious fry of imps and leering devilesses, is well calculated to display the whimsical buffoonery of a Dutch imagination.⁵

These published records of viewer experiences – the judgements, criticisms and praise – emanating from the *cognoscenti*, established “acceptable” levels of taste, as the display of art and objects moved out of private environments and into the public realm. While the

early universal survey museums were open to the public, their first audiences were the same educated, cultured patrons who had been collecting and viewing art in private surroundings for generations.

The Louvre

In 1747, as Louis XV maintained the royal court at the Chateau de Versailles, the art critic Étienne La Font de Saint-Yenne published a pamphlet advocating for a royal art gallery to be established at the Louvre palace, and to be opened to the public. Although the building had fallen into a state of neglect and disrepair, it continued to house the vast majority of the royal art collection and was still viewed with pride by the French people as a national symbol.⁶ La Font, and the critics and philosophers who joined his cause, were not necessarily advocating for public access for the masses, but rather for their aristocratic and educated peers. The wealthy class of Paris saw the royal art gallery at the Louvre, and their access to it, as confirmation of their own status in the upper echelon of French society. They desired a museum-goer experience that was as much about *them* being viewed in that environment as it was about the viewing of art.⁷ The idea of opening the Louvre as a public museum was much discussed at court, and by 1777, the King's Director General of Buildings formalized a committee to begin the transformation of the Louvre into a royal museum. The Revolution of 1789 brought radical, societal transformation to France, but the work to renovate the palace and convert the Louvre to a public museum remained on course. In 1792 and 1793, new decrees sanctioned the state confiscation of the royal art collection; the Louvre was declared to be a national museum

and was to be opened to the public.⁸ While this transfer of ownership of both the Louvre and its holdings was made in the same spirit of egalitarianism that helped drive the revolution, the physical appearance of the facility and the display of its contents, what Gordon J. Fyfe describes as “aristocratic cultural assets,”⁹ remained as it did when still in royal hands. Fyfe continues, “it was partly as museum objects and as design principles that the buildings, religious symbols, decorations, furniture, painting and sculpture, that is the material culture of the old order, passed into modernity.”¹⁰

When the museum opened on August 10, 1793 (the first anniversary of the fall of the monarchy), there was little work for the exhibition designer to do – the scale of the gallery, the expanse of the vaulted ceilings and sophisticated architectural ornamentation dominated the viewer experience. Paintings were hung in the *style de salon*, frames abutting, stacked one on top of the other from floor to ceiling. This method of displaying paintings is rooted in the exhibits of student artwork at the *Académie Royale de Peinture et de Sculpture* (Royal Academy of Painting and Sculpture) which began in Paris in 1667. The volume of paintings and sculptures that were deemed worthy of exhibition at the academy necessitated that every available wall surface be used for hanging. This *style de salon* became an accepted form of exhibition or display well into the nineteenth century. As these first museum-goers were educated and possessed a cultural sophistication, in all likelihood they would have been familiar, if not with a specific work, at least with the artist or school and genre. Though the quality of art maintained a threshold of accepted taste, it was the quantity of art and objects that overwhelmed, more so than the individual aesthetic merits of a given work. The museum-goer experience was as much about social inclusion as it was the viewing of artwork.

There is no record of signage or museum labels at the Louvre that identified what one was viewing, but that is not to say that every artwork was presented without description. Louis Léopold Boilly's 1810 painting *The Public Viewing David's "Coronation" at the Louvre* depicts a gathering of finely dressed Parisians standing in front of Jacques-Louis David's enormous (33'-0" W x 20'-0" H) 1807 painting *The Coronation of Napoleon*.¹¹ In the lower left side of the painting stands a man in military attire holding an open book, reading the names of the rich and powerful figures posing as spectators in David's painting.¹² He has been assigned this task by museum authorities to project the significance and power of the subject matter and, by extension, the museum's possession of the painting. The authority of the Louvre is exerted in this museum-viewer relationship and is weighted solely with the institution. The ability to enhance one's understanding and assign meaning to David's master work is heavily influenced by the museum's use of this narrator; without him, the viewer is left wanting.



Fig.1. "*The Public Viewing David's 'Coronation' at the Louvre,*"
Louis Léopold Boilly. Oil on canvas, 1810.
©The Metropolitan Museum of Art, New York.

Other European nations looked at the opening of the Louvre as a national, public museum and saw the French exertion of national pride as a kind of cultural call-to-arms and began planning their own universal survey museums – institutions to showcase their native artists and collections of antiquities as symbols of national authority. The rush was on. The next three decades saw the opening of the Rijksmuseum in the Netherlands (Amsterdam, 1808), the Museo del Prado in Spain (Madrid, 1819), the Königliches Museum in Prussia (Berlin, 1830), and the Nationalmuseet in Denmark (Copenhagen, 1819). The opening, and expansion of European museums continued for the duration of the nineteenth century. By 1860 the Louvre had expanded its facility to include the entire Louvre complex; the British Museum increased its holdings and built the Quadrangle Building in 1852, the core of the present-day museum. Elsewhere in London, the resounding success of the Great Exhibition of the Works of Industry of All Nations (Crystal Palace) in 1851 provided the impetus for the opening of the South Kensington Museum in 1852.¹³ The State Hermitage Museum in St. Petersburg, Russia was opened to the public in 1852. Forty-two years after the original opening of the Königliches Museum in Berlin, an entirely new facility was opened in Berlin in 1872, the Alte Nationalgalerie, to accommodate the institution's increased holdings. The Kunsthistorisches Museum in Vienna also opened in 1872.

Public Museums in the U.S.

These initiatives in Europe were not lost on the educated and increasingly wealthy upper class in the United States. During the 1870s and 1880s, the U.S. economy rose at

the fastest rate in its history, with real wages, wealth, gross domestic product, and capital formation increasing rapidly.¹⁴ The industrialists, railroad magnates, manufacturers, and the financiers who backed them, all did exceedingly well. In Massachusetts for example, a predominantly manufacturing-based state, the wealthiest 2% of the population owned more than half of the state's wealth (in held estates).¹⁵ This rise in wealth, particularly the steep rise within the upper class, created a stark disparity between rich and poor, prompting examinations of wealth distribution and economic fairness across social classes. Mark Twain and Charles Dudley Warner lampooned the trappings and social aspirations of the newly rich in their 1873 satirical novel *The Gilded Age: A Tale of Today* and unbeknownst to them, launched an epithet for a generation. Andrew Carnegie began his 1889 essay for *North American Review*, entitled "Wealth," by stating that, "The problem of our age is the proper administration of wealth, so that the ties of brotherhood may still bind together the rich and poor in harmonious relationship."¹⁶

The accumulated wealth in this post-Civil war period generated a great deal of philanthropic activity, as hospitals, educational institutions and homes for the poor and indigent were established in large cities with endowments from the newly-minted rich and powerful. These services were required for an ever-increasing urban population: in 1850, 3.6 million people (15.4% of the population) lived in urban environments, and by 1900 that number had increased to 30.2 million (40% of the population).¹⁷ Workers in urban-based factories and waves of newly-arrived immigrants combined to tax any given city's ability to provide shelter, education, or to stop the spread of deadly diseases. In addition to financing facilities to provide social and educational services, wealthy benefactors also sought to create public diversions for increasing numbers of urban

dwellers squeezed into small apartments and tenement buildings. Public parks and recreation centers were developed to provide outlets to escape the close quarters of city living. Writing about New York's Central Park, opened in 1858, the art critic James Jackson Jarves described it as, "a great free school for the people... a magnetic charm of decent behavior, giving salutary lessons in order, discipline, comeliness, culminating in mutual good will."¹⁸

As the Gilded Age reached its apogee, the public art museum emerged as an additional option for diversion in these large cities. The Metropolitan Museum of Art in New York City opened in 1872, and both The Boston Museum of Fine Arts and The Philadelphia Museum of Art opened in 1876. The Philadelphia Museum of Art was opened in conjunction with the Centennial Exposition, celebrating the hundred-year anniversary of the founding of the United States. Art museums spread rapidly westward from the east coast with the opening of the Art Institute of Chicago in 1879, the Cincinnati Art Museum in 1881, and the Detroit Institute of the Arts in 1885. Unlike their European predecessors that were national institutions grown largely out of royal, church or state holdings, these U.S. counterparts emerged from civic concerns and were founded by industrialists and financiers who had reaped the benefits of capitalism in a particular locality. And while the missions of these museums were similar in Europe and the U.S.-- ostensibly to broaden the public's exposure to taste and culture -- they also stood on both continents as a reflection of the accumulated wealth and power of the social elite. Alan Trachtenberg notes that these new U.S. museums, "...subliminally associated art with wealth, and the power to donate and administer with social station and training."¹⁹ Museum-goer experience was dependent on pre-existing knowledge and education --

while the uninitiated were welcome to cross a museum's threshold, there was a social implication that little meaning or experience would be acquired by doing so. At meetings of museum directors during this time, they voiced their concerns to each other as to whether the common man could understand a museum collection in the same way as a man of the upper class.

The Growth of Museum Holdings

These museums, designed as Greek Revival and Neoclassical temples, were constructed to associate wealth and privilege with cultural institutions in much the same way that these same architectural forms were used by churches and governments of the time to convey religious or governmental authority. However, the grand entrances, massive columns and elaborate marble staircases of the architecture alone, only partially confirmed the stature attendant to a museum's benefactors. The content of the museums – their inventory, acquisitions and gifts – was, after all, the *raison d'être* for an institution's existence. The wealthy became quick to acquire objects and artwork and donate them to their preferred museum, often in great numbers. The Metropolitan Museum of Art opened with one Roman sarcophagus, and one hundred and seventy-four European paintings in 1872. Sixteen years later, the museum's 1889 annual report describes the following gifts to the collection in 1888: nearly three hundred pieces of ancient iron work from Nuremberg, three hundred musical instruments, a collection of Egyptian antiquities, Battersea enamels, and "a very valuable collection of miniatures, snuff and other boxes in gold, silver, fine work of enamel, precious metals, shell and

jewels.” Henry G. Marquand, the president of the museum, noted his own loan of “noble examples of works of old masters in the art of painting.”²⁰

Marquand, in an apparent act of humility, did not detail his own gift, but the thirty-seven paintings he bequeathed to the museum included Van Dyck’s, *James Stuart, Duke of Richmond and Lennox*, two Rembrandts, two Franz Hals portraits, a Gainsborough and Vermeer’s *Woman With a Water Jug*, the first Vermeer to enter the country.²¹ Putting aside Marquand’s self-effacement in the Met’s annual report, surely egos, influence and civic pride were at play in this rush to fill museums with gifts of distinction. The *Boston Herald* reported that with Marquand’s loan, “in the manner of generous patronage New York is ahead of us.”²² This “generous patronage,” occurred not only in New York, but in cities across the nation where museums were opening. The affirmation of social status achieved by making loans and gifts to museums led to a massive infusion of objects and artworks to these institutions; paintings, tapestries, statuary, sculpture, ceramics, furniture, jewelry, armor, musical instruments and more were arriving on the doorstep of these new museums on a regular basis. Exhibition catalogues listing the donors of a particular collection became a social scorecard and motivated additional collecting and donating. By the end of the nineteenth century, the new American museums were planning moves to larger buildings or adding new wings to house their burgeoning collections, while additional cities such as Cleveland, Baltimore, and Atlanta planned their own museums.

As the nineteenth century drew to a close, public art museums in Europe and the United States were well-established manifestations of state or civic pride, providing a platform for the wealthy to demonstrate their largesse and becoming destinations for

public recreation. They were overflowing with objects and artwork to such a degree that museum directors began to question if visitors were being overwhelmed by the sheer quantity of items to be viewed in their facility. These questions prompted a critical analysis of what portion of a museum's holdings was on display, how they were being displayed, what required explanation and what didn't, and how did individual items fit within the context of a museum's overall offering. While these questions raised prosaic concerns as to what was happening within a museum's four walls, they pointed to the larger question of how an art museum acted as arbiter on behalf of the artists (makers) in providing a platform for the public (users) to attain meaning from the works being viewed.

The question of a museum's mission were laid bare at The Mannheim Conference on Museums as Places of Popular Culture,²³ a two-day gathering of more than two hundred people "interested in this social question,"²⁴ including fifty museum directors, at the city's Realgymnasium in 1903.²⁵ The stated objective of the conference was, "to discuss in what ways museums could bring themselves into touch with the working people."²⁶ Day One focused on this fundamental issue, and elicited a sharp divergence of opinion regarding the degree to which a museum could educate or inspire its viewers. Dr. Pauli, of the Kunsthalle in Bremen argued that while, "the upper classes felt themselves above instruction," and that "no museum supposed it could turn a road-mender into a connoisseur on a Sunday morning," it was possible to inspire working people who "were more susceptible, and it was from them that future creative artists were to be expected."²⁷ Dr. Lessing, director of the Kunstgewerbe-Museum in Berlin, countered that as "the public as a whole, from the man in the street up to 'his Excellence' - and higher still - had

not, and could not be given, a feeling for art,” it was best to prepare museum guides as factual textbooks to educate viewers. He cited Thomas Huxley’s *Crayfish: An Introduction to the Study of Zoology* as model for the preparation of these guides.²⁸ Huxley was a biologist who specialized in comparative anatomy, and wrote “Crayfish” as a dispassionate presentation of this creature, sparing any emotion or opinion that he may have harbored for the subject matter. Huxley’s approach, perhaps appropriate to a “crayfish,” does not seem especially appropriate to art and its ability to move or inspire viewers.

In addition to speeches discussing a museum’s mission, several speakers addressed the practical concerns increasingly faced by museums. Dr. Alfred Lichtwark, director of the Hamburger Kunsthalle, for example, questioned the architecture of large museums, with their “corridor-like arrangement of rooms *en suite*, to the waste of space and money on a huge stair-hall, and especially to the domination of a whole museum by the architect’s conception of his façade.”²⁹ Without mentioning the *style de salon* hanging method specifically, Professor Grosse of Freiburg im Breisgau, advocated, “setting apart for the public of certain rooms, in which carefully selected objects should be displayed according to aesthetic principles, *abundance of space being allowed to each object* (emphasis mine), especially to the smaller ones. Different classes of objects should be intermingled, and the exhibits should be changed at intervals.”³⁰ Professor Grosse’s belief that “one should not confuse the scientific study of art with the faculty of appreciating beautiful works of art”³¹ necessitated individual objects be given an “abundance of space” within which to contemplate them. The increase in museum holdings also required rotation of displayed objects to allow for this adequate viewing

space. The nineteenth-century effort to fill museums with artwork and objects to educate and inspire the general public had created, in the opinion of some, an unintentional consequence: there was too much content for a “working man” to comprehend; the museum-goer experience was diminished by the sheer volume of items displayed. Dr. Schmid of the Bavarian National Museum joined Dr. Lichtwark to question whether the big museums had gotten too big, and “urged the value of small local museums for the encouragement of an art connected with the life of the people.”³²

Museum Fatigue³³

The privileged class of the nineteenth century who endowed these early museums and filled them with artwork and objects had done so as much to confirm their own social standing as for the cultural enjoyment of those they deemed below them in rank. While museum-goer experience, and social scorekeeping, for these cultural elite remained unchanged in the first years of the twentieth century, the ability of museums to provide a meaningful experience for the “road-menders” who passed through an institution’s turnstiles was left wanting. This gap in the expectations of museum-goers was addressed by the British art historian, Robert Clermont Witt, in his 1902 practical guide, *How to Look At Pictures*. Witt begins his book with this introduction:

Among the most pathetic figures in the world must be counted the men and women who may be seen in any picture-gallery slowly circumambulating the four walls with eyes fixed upon catalogue or guide-book, only looking up at intervals to insure that they are standing before the right picture. All unknowing they falter on, achieving only fatigue of body and mind; with a certain mournful satisfaction in a toilsome task nearing accomplishment. Again and again they find themselves looking at famous pictures without seeing them.³⁴

Witt walks his reader step-by-step through the various considerations one must take into account when viewing paintings – composition, color, light and shade, distinctions between landscape and portrait, and the schools of painting by which artists are generally categorized. He also draws a distinction between the lens used by an artist to view a painting and that of the layman. While, “the artist, in the full consciousness of his greater experience in matters artistic, is convinced of the essential superiority of the spirit and letter of his criticism over the superficial reasoning of the amateur,”³⁵ for both, “the desire to understand should precede the wish to extol or condemn.”³⁶

As museums began to evolve in the twentieth century, the distinction between maker (the artist) and user (the viewer) emerged as a fundamental determinant in aiding a visitor’s “desire to understand.” The visitors to early museums were primarily of the same educational background and social circumstances as those who founded them, but as the density of urban populations prompted both government agencies and wealthy individuals to create a broader range of educational and leisure-time activities, museums saw a more diverse audience come through their doors. Additionally, public transportation in the form of underground or elevated trains began to operate in major cities – both in the U.S. and Europe³⁷ – at the beginning of the twentieth century, making museums more accessible to a greater geographical populace. This new audience, with a greater range of educational and vocational background, experienced a different range of reaction and understanding to artwork and objects on display. In Witt’s example, a trained artist with knowledge of the properties of oil paint as a medium, glazes, brush types, etc., may look at a painting and ascribe meaning in fundamentally different ways

than an office clerk with no knowledge of painting technique. Similarly, an immigrant living in a cold-water flat on the lower east side of Manhattan could be expected to view a Thomas Cole painting in a different manner than a person born and raised in the Catskills, a common subject setting in a Cole painting. Untrained viewers in an environment containing an overwhelming quantity of artwork and objects unrelated to their life experience could grow weary of a museum in a relatively short time period.

Benjamin Ives Gilman, the secretary of the Museum of Fine Arts in Boston, attributed the issue of museum fatigue not so much to previous life experience or educational point-of-view, but rather to the physicality of museum layouts and positioning of artwork, lighting and placement of labels within galleries. Writing for *The Scientific Monthly* in 1916, in an article entitled “Museum Fatigue,” Gilman asks, “what kinds and amount of muscular effort are demanded of the visitor who endeavors to see exhibits as museum authorities plan to have them seen?”³⁸ In an effort to address this issue of fatigue, he conducted a series of observational experiments to highlight the problem, and by extension, provide a remedy to improve museum-goer experience. Gilman concluded that the physical exertion required of museum-goers limited their ability to gain meaning from exhibits, and that by only considering the curatorial concerns of a given collection, museums were forcing their visitors to “resign (themselves) to seeing practically everything imperfectly and by a passing glance.”³⁹



Fig. 2. Pages from "Museum Fatigue," detailing Benjamin Ives Gilman's observations of the physical nature of museum-goer experience. *The Scientific Monthly*, January, 1916.

By 1920, it is clear that the original mission of these public museums – from their genesis as institutions founded by privilege to their use by a broader social spectrum as places of leisure-time activity and learning – was in a state of evolution. Witt, Gilman and the governors-at-large of these institutions acknowledged that wider audiences entered museums with differing levels of education, socio-economic status and cultural identity. While the questions of how to attract these audiences and impart a heightened level of museum-goer experience were the subject of ongoing debate, they were asked within the existing paradigm of the universal survey museum: whether to hang more or fewer paintings on a given wall, what is the preferred number of items to be placed within a given showcase, should benches be placed throughout galleries to “forestall, not recover from fatigue.”⁴⁰ During this period of institutional examination, the museum’s

assumed position of influence within the greater cultural landscape remained essentially unchanged in the minds of museum authorities. Outside of the museum director's realm, however, questions emerged regarding what these institutions represented, and their value in the collecting and exhibiting of art.

Chapter 2

Modernism, the Advent of Exhibition Design and Frederick Kiesler

Questions regarding the ‘mission’ of the museum were raised, at least in part, by artists at work during the same early years of the twentieth century. These living artists had taken their place within the larger social movements that emerged in Europe and spread to the United States during this period – movements that questioned the costs and benefits of living in a mechanized, industrial society, the socio-economic condition of the poor and underprivileged, the role of women, distribution of wealth, and the authority of such museum institutions. These modernists, aligned as members of De Stijl, the Futurists, and the Constructivists, among others, wished to be unburdened by the weight of history, to explore new means and methods for living in the twentieth century that better reflected their belief in a new world order. While modernist philosophers and writers addressed a wide range of issues in their books and publications, artists took dead aim at art museums. The majority of a museum’s holdings were those created by artists who were long dead: the display of their work was left solely in the hands of museum officials and was contained within neoclassical behemoths built to recollect ancient Greek temples. Everything about public art museums was anathema to modernists as this excerpt from Marinetti’s Futurist Manifesto demonstrates:

Museums: cemeteries!... Identical, surely, in the sinister promiscuity of so many bodies unknown to one another. Museums: public dormitories where one lies forever beside hated or unknown beings. Museums: absurd abattoirs of painters and sculptors ferociously slaughtering each other with color-blows and line-blows, the length of the fought-over walls!

That one should make an annual pilgrimage, just as one goes to the graveyard on All Souls’ Day—that I grant. That once a year one should leave a floral tribute beneath the *Gioconda*, I grant you that... But I don’t admit that our sorrows, our

fragile courage, our morbid restlessness should be given a daily conducted tour through the museums. Why poison ourselves? Why rot?⁴¹

Alexandr Rodchenko, the Russian Constructivist, less incendiary than Marinetti, but no less forthright, wrote in *Declaration of Museum Management*, that the collection and exhibition of modernist art should in no way be the province of museum officials, but rather that authority should be solely conferred upon the artist:

It is the nature of their profession that cultural operators in the museums tend to preserve what has been done, in contrast to the artists who would like to replace the old by the new; since it is the artist who is the creative force in the field of art, it ought to be his task to guide the country's artistic education...

The old anachronism, whereby the museums are filled with works of modern art chosen by the aforesaid cultural operators, should be done away with. The job of buying modern works is strictly the province of artists...⁴²

Rodchenko's call for museums to cede their authority for acquiring artwork to artists, and, by extension, how that work was presented to the public, represented a new school of thought regarding museum management – and a distinct break from the accepted norms of the museum's role as “cultural operators.” In effect, Rodchenko and his compatriots believed that living makers of art could (and should) speak directly to viewers through the display of art, eliminating museum officials as arbiters of taste. They believed that the artist or maker was uniquely qualified to link past artistic endeavors to those of the present day, and that by arranging work chronologically in a seemingly never-ending series of galleries, museums functioned merely as storehouses of collected works. This inability of museums to provide the vital linkage between the artistic past and present deprived their visitors of gaining a meaningful experience. Museum

presentations as historical timelines were seen by Rodchenko as an outdated concept and of no interest. Writing in reference to European state museums, he desired “to create a museum of creative artistic culture which would serve to promote the artistic life of the country.”⁴³

This questioning of authority and rejection of accepted assumptions of conformity cut across all disciplines of art to include design and architecture. New forms and objects emerged in a wide range of creative endeavors – painting, sculpture, furniture design, residential and commercial buildings, interior spaces, household objects, typography, illustration, and textiles, among others. This new generation of artist, designer and architect sought to reinvent and bring a twentieth-century or modern sensibility to all they touched. The desire for reinvention extended to the theater as well, as both costume and stage designers sought to reflect the ambitions of the new, modern playwrights. It is from these stage designers as well as architects and industrial designers that we see modernist exhibition design emerge.

The New Stagecraft as Precursor to Modern Exhibition Design

It is not my intention to proffer a thorough discourse on the evolution of stage design from the late nineteenth century into the first two decades of the twentieth century. This evolution – what came to be known as the New Stagecraft – had a profound effect on subsequent theater and opera productions over the next fifty years and in many ways informs the thinking of stage designers to this day. While the New Stagecraft is a subject worthy of its own detailed examination, the focus of this study is the link between

developments in stage design and the nascent field of modern exhibition design, given the fact that several influential early exhibition designers and architects, such as Joseph Urban, Frederick Kiesler and Norman Bel Geddes among others, began their careers as stage designers and incorporated this experience into their later display practices.

Stage design during the nineteenth century was typified by a two-dimensional canvas backdrop painted to suggest a three-dimensional environment and rolled down from rigging concealed behind a proscenium arch. The performer(s) stood in front of one or a series of backdrops and recited, or sang, their lines until the final curtain came down, signaling the conclusion of a performance. While there may have been props brought onstage at a particular point in a show, from a staging perspective, they were essentially two-dimensional affairs.

This two-dimensionality was reinforced by the flat, even light produced by gas lamps placed around the stage. In 1881, the Savoy Theatre in London installed the first incandescent lights in a theatrical setting. Richard D'Oyly Carte, founder of The Savoy noted, "the greatest drawbacks to the enjoyment of the theatrical performances are, undoubtedly, the foul air and heat which pervade all theatres. As everyone knows, each gas-burner consumes as much oxygen as many people, and causes great heat beside. The incandescent lamps consume no oxygen, and cause no perceptible heat."⁴⁴ In addition to these practical concerns, these new incandescent lamps could be focused to create areas of light and shadow, accentuate foreground and background, and bring a heightened sense of three-dimensionality to the stage.

The second technical advancement in stage design during this period was the introduction of the hydraulic stage elevator. More elaborate sets could be readied

offstage and raised and lowered into position as needed, and performers entering and exiting the stage were no longer confined to its left and right wings—they could also be raised or lowered from various points of the stage. As stages became more dynamic entities, stage designers were no longer bound by the conventions of past two-dimensional productions and began to explore the activation of this three-dimensional space to the advantage of a particular theatrical or operatic work.

It is widely acknowledged among theater historians that the two designers who most clearly understood the possibilities to fundamentally alter the accepted practice of stagecraft were the Swiss-born Adolphe Appia (1862 -1928) and the Englishman Edward Gordon Craig (1872 – 1966). Appia and Craig differed in their approach to the execution of a particular stage set, but they agreed in principle that the nineteenth-century painted backdrop was a relic of the past, and that the concept of non-figurative scenery supported an ability to focus on a production for its dramatic content, and not to rely on the stage designer as a literal interpreter. Appia advocated a *mise-en-scène* approach to staging, and for every element of a production to be visibly included within the “framework” of a production. There was no need for a curtain, no need to hide the orchestra, but most importantly, there was a new opportunity to provide a stage that allowed the performers to move through three-dimensional space.

Appia wrote that form, as a component of *mise-en-scène*, “is not a reproduction of some aspect of life...it is the harmonious union of various technical devices for the sole purpose of communicating to many the conception of one artist.”⁴⁵ Similarly, Craig advocated the use of non-pictorial scenery, and envisioned sets constructed of movable white screens, or ideally, shifting hydraulic columns, played upon by expressive light.⁴⁶

He went a step further and approved the idea of actors wearing masks, so as to not let their personal identity cloud the audience's pure reception of the dramatic content. This concept of stripping away elements that didn't reinforce pure artistic intent surely resonated with the likes of Kiesler, Urban and others, and it is evident in both their work in the theater and later exhibition and architectural practice.

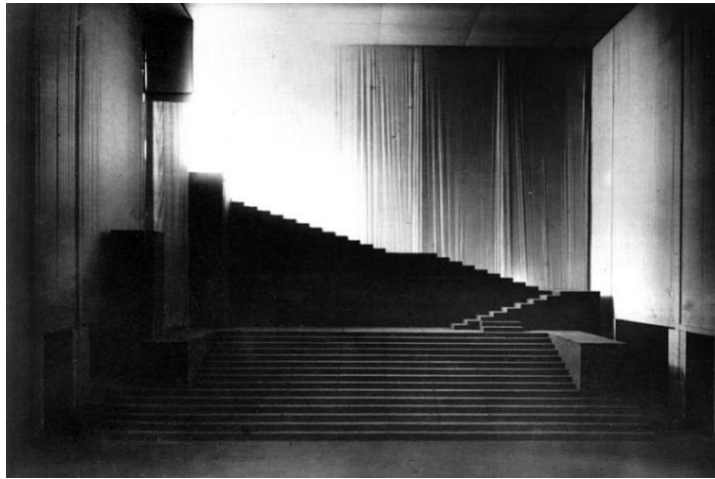


Fig. 3. Appia stage for Gluck's *Orfeo ed Euridice*. Institut Jaques-Dalcroze in Hellerau, 1913.

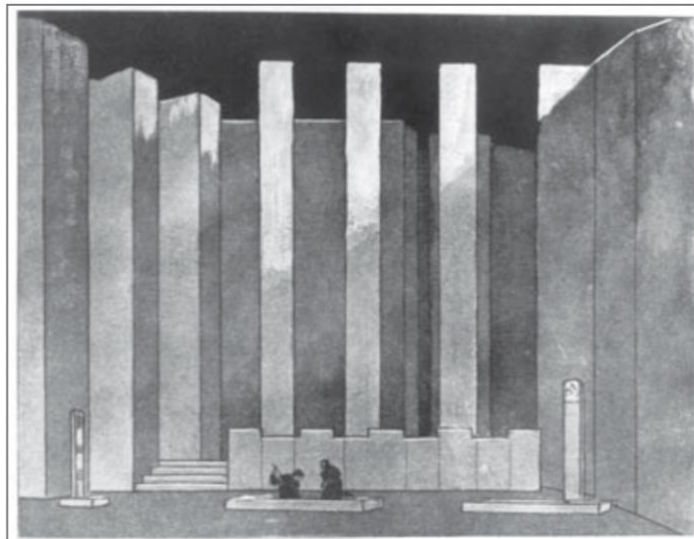


Fig. 4. Craig stage for *Hamlet*. Moscow Art Theatre, 1912.

The Bauhaus

These new concepts in stagecraft paralleled early twentieth-century developments in other areas of design and the decorative arts, and were guided by similar precepts: a desire to cast off historical precedents, to embrace the new mechanical technologies possible in an industrial world, and an interest in the visual abstraction of physical form. Creative coalitions formed in European nation-states to collectively probe visual expression and give new meaning to both grand and everyday objects aligned with these precepts. The Futurists in Italy, De Stijl in the Netherlands, the Constructivists in Russia and the Werkbund, a precursor to the Bauhaus in Germany, became leading movements in this new avant-garde, pushing the boundaries of aesthetic taste. The members of these collectives included artists, industrial and graphic designers, architects, interior designers and craftsmen working both individually and in collaboration with their colleagues across disciplines. Stagecraft and the broader investigation of the movement of individuals through three-dimensional space became integrated into the other artistic pursuits of these groups.

In 1919, Walter Gropius, director of the Kunstschule and Kunstgewerbeschule in Saxony, merged that institution with a new department of architecture into the Staatliche Bauhaus in Weimar, Germany. His original *Program of the Staatliche Bauhaus in Weimar* stated that, “The Bauhaus strives to bring together all creative effort into one whole,”⁴⁷ and in listing the “Principles of the Bauhaus,” Gropius called for, “new research into the nature of the exhibition to solve the problem of displaying visual work and sculpture within the framework of architecture.”⁴⁸ Stagecraft was not included as part

of Gropius's original "Range of Instruction," in 1919, but a theater workshop was added to the Bauhaus curriculum in 1921, overseen by Lothar Schreyer. Exhibition design was developed as an area of experimentation within the printing workshop under the direction of Herbert Bayer from 1925-1928, and became a formalized area of study when Hans Meyer assumed the directorship of the Bauhaus in 1928.⁴⁹

Schreyer directed the theater workshop at the Bauhaus for only two years; Oskar Schlemmer took over the program and ran it from 1923 to 1929.⁵⁰ In a 1927 lecture, Schlemmer stated that the stage work at the Bauhaus had become, "an organic link in the total chain of Bauhaus activity," and that, "it is the union of the most heterogeneous assortment of creative elements."⁵¹ The significance of the theater workshop to the overall mission of the Bauhaus can be seen in Gropius's plan for the new Bauhaus built in Dessau in 1925: the auditorium was located near the center of the building's triadic pinwheel, between the entrance hall and canteen, as if to indicate the theater's pivotal status within the school's social and professional life.⁵²

This link between two- and three-dimensional studies at the school promoted a multi-disciplinary approach to the performative arts – including lighting, graphics and form – and became the elements utilized in a prototypical mass-media approach to modern exhibition design. The study of movement through the transitory three-dimensional space inherent to theatrical productions was weighted with the same intellectual rigor as movement through the fixed, permanent architectural space of homes, offices and factories. In contrast to permanent architectural space, the transitory space of the theater provided an immediate relationship between the artistic performers (makers) and audience (users), with the stage designer acting as a conduit between the two parties

to activate the space and impart meaning to the staged performance. In a sense, the role of the stage designer foreshadowed that of the exhibition designer—both worked to utilize space between makers (actor or artist) and users (audience or museum-goer).

Constructivists and Liubov Popova

Stage designers played a prominent role in the Russian Constructivist theater that emerged in these same early years of the twentieth century, a time that historian of twentieth-century Russian art, John Bowl, describes as, “that point at which stage design in Russia moved from surface to space.”⁵³ That point, specifically, was the debut of Mikhail Matyushin’s opera *Victory Over the Sun* in St. Petersburg in 1913. The avant-garde writers Alexei Kruchenykh and Velimir Khlebnikov wrote the libretto, and the set design (and costumes) were created by artist Kazimir Malevich. *Victory Over the Sun* marked the debut of the pre-revolutionary avant-garde into Russian theater and is regarded as an achievement of the Wagnerian concept of *Gesamtkunstwerk*: staged performance as a work of comprehensive art.⁵⁴ Described as the first Cubo-Futurist opera,⁵⁵ *Victory Over the Sun* intended to present the “emancipation of man from his dependence on Nature, which the urban-minded Futurists believed had been superseded in the twentieth century by the machine.”⁵⁶ Malevich’s set design for *Victory Over the Sun*, a series of large canvases draped from the rear of the stage, was actually more physically aligned to the pre-Appia staging method of a two-dimensional painted backdrop hung from rigging, owing in part to Malevich’s primary work as an easel painter. Malevich used mobile lighting on the stage in conjunction with these canvases to

project light and dark areas on stage, metaphorically describing the passing of time. The content of these canvases, however – completely abstract compositions – introduced the Russian avant-garde to the concept of non-representational imagery as a means of creative expression in the theater. The Futurist poet Benedict Livshits attended the performance and wrote:

Painterly stereometry was created within the confines of the scenic box for the first time, and a strict system of volumes was established, one which reduced the element of chance (which the movements of the human figures might have introduced) to a minimum... Abstract form was the only reality, a form which completely absorbed the entire Luciferan futility of the world.⁵⁷

Malevich's work for *Victory Over the Sun* did not activate three-dimensional space per se, but the concept of using non-representational imagery and abstract form unlocked the potential for other Russian artists, including El Lissitzsky, Aleksandr Rodchenko, and Liubov Popova, to further experiment with form and movement in space as a vital component in the performative arts.

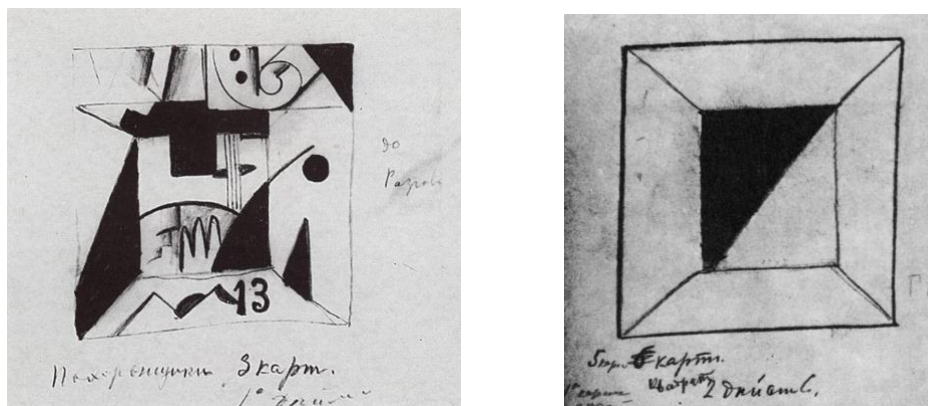


Fig. 5. Kazimir Malevich, sketches for *Victory Over the Sun* backdrops, 1913.
Left, Act 1. Right, Act 2.

While all of these Russian artists, and others, had some impact on the further exploration of three-dimensional space in the theater, it was Popova's work for Vsevolod Meierkhold's State Higher Producer Workshop in Moscow that embodies the evolution of stage design from the late nineteenth century into the modernist era. Popova, trained as an easel painter like Malevich, had reached a level of renown for her two-dimensional work while a part of the Cubist and Constructivists movements. Meierkhold invited her to compile a program in "material stage design" for the theater workshop in 1921;⁵⁸ a year later, the workshop staged a production of the Belgian playwright Fernand Crommelynck's *The Magnanimous Cuckold* for which Popova designed both the set and costumes. Popova's *tour de force* synthesized all of the concepts and physical elements that had been introduced into the world of stage design over the prior thirty years: there was no proscenium, wings or curtain, and no representational imagery, only abstract form. The actors moved through three-dimensional space, the stage elements included moving parts and two-dimensional graphics, and the audience was brought forward and into a relationship with both the actors and the stage. Popova, acting as arbiter between maker and user, brought the radicalization of stage design to a new level:

On the evening of the first presentation of *The Magnanimous Cuckold* Muscovites...saw - on the stage completely denuded of curtain, backdrops, portals and footlights - a wooden installation of the strangest shape, a construction. It was assembled to look like a peculiar windmill and was a combination of platforms, ladders, gangways, revolving doors and revolving wheels. The box itself did not depict anything. It served merely as a support, a device for the actors' performance and resembled something in the order of an intricate combination of trampolines, trapezes and gymnastic installations. The wings of the windmill and the two wheels revolved slowly or quickly depending on the intensity of the action and the tempo of the spectacle. The clever young actors and actresses, without make-up and in blue workers' overalls (the same for men and women), played out a firework-like symphony of movements with the ease of virtuosity for three hours....⁵⁹

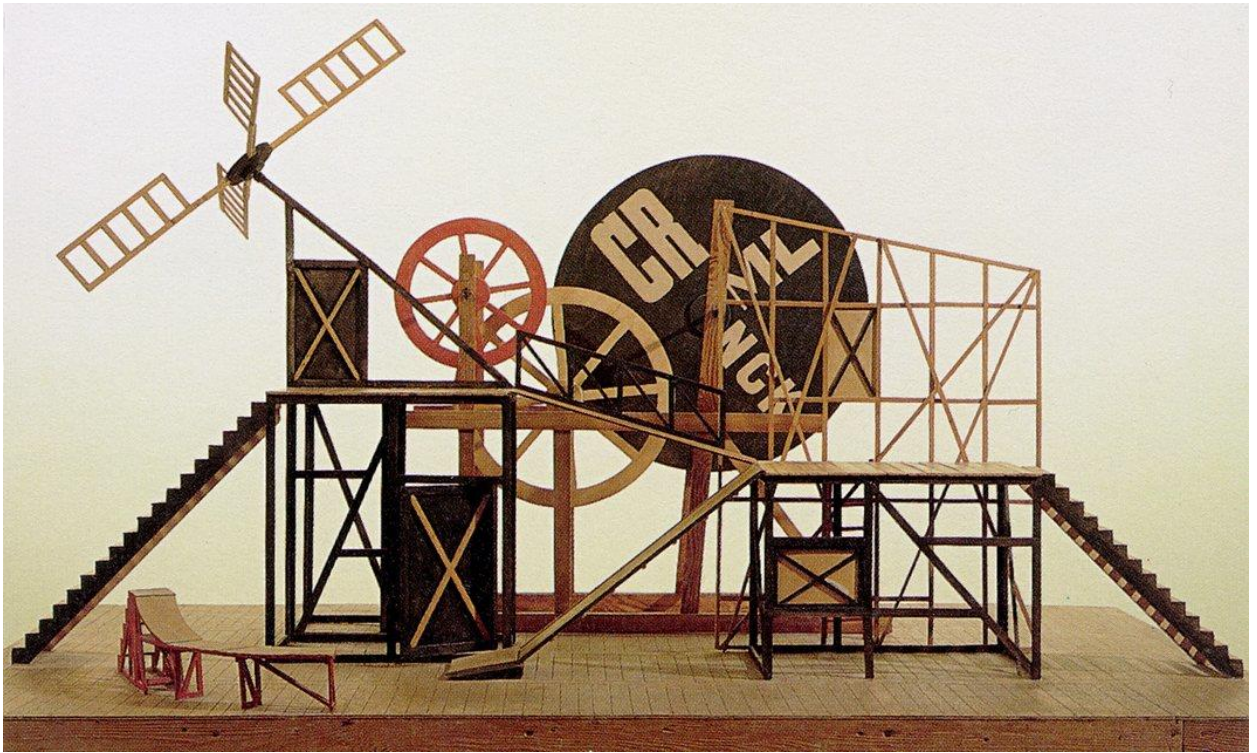


Fig. 6. Liubov Popova, stage design for *The Magnanimous Cuckold*, 1922.

Bowlit matter-of-factly notes that as a result of Popova's work on *The Magnanimous Cuckold*, her "influence was appreciable."⁶⁰ Harold Segel writes that the production, "has been credited with officially inaugurating 'theatrical constructivism,'" and that the work of Popova and others in the movement was "impressive enough to attract considerable attention in the West."⁶¹

By the mid-1920's, it appears clear that the European art and design world recognized stage design as a new medium that encouraged experimentation with form and movement across multiple disciplines. This recognition, combined with questions of viewer experience within the institutional museum world, and a general casting-off of history by the avant-garde, created a fertile environment for the development of a new

approach to the exhibition of artwork and objects. The stage designer had taken an active role as arbiter between maker and user, creating a blueprint of sorts for the exhibition designer to act as arbiter between artist and museum-goer. And as Liubov Popova created a new paradigm for theatrical constructivism with her work for Meierkhold in 1922, so too did Frederick Kiesler in the field of exhibition design with his landmark *Internationale Ausstellung neuer Theatertechnik* (International Exhibition of New Theater Technique) in Vienna in 1924.

Frederick Kiesler and De Stijl

Frederick Kiesler was born on September 22, 1890 in Chernivtsi, Ukraine, and began university in Vienna in 1908. He studied architecture at the Technische Hochschule from 1908 to 1909, and enrolled in printmaking classes at the Akademie der bildenden from 1910 to 1912. Kiesler never received a formal degree from either institution.⁶² Other than a three-month trip to Berlin in 1921, Kiesler remained based in Vienna from 1908 until departing for America in 1926. His first commission in professional practice came in 1923, when he worked as a stage designer. This initial commission was to create a set for the Theater am Kurfürstendamm production of Karel Capek's *R.U.R.* in Berlin. *R.U.R.* presented Capek's futuristic vision of technology as a societal advancement to be feared, questioning man's relationship to machines, and it featured the first known depiction of "robots." Kiesler's electromechanical set, ironically, embraced technology and featured an array of moving, multi-media parts: mechanical apparatuses, seismograph, iris diaphragm, flashing lights, film projector and mirrors to

create optical illusions.⁶³ Kiesler, working as arbiter between actors and audience, created an implied, perhaps more optimistic, counterpoint to Capek's darker vision of the future. His ability to provide the audience with a means to interpret a work and impart meaning by using a variety of visual and audio stimuli, informed much of Kiesler's later work, including his exhibition design.

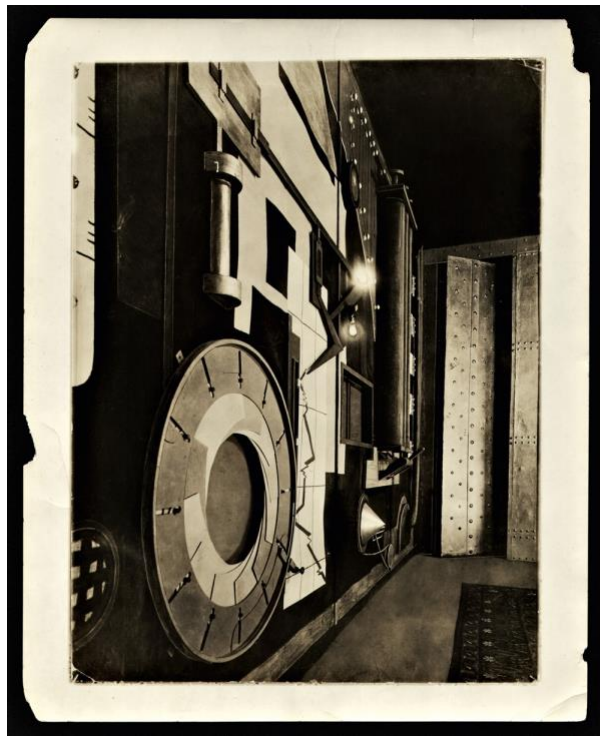


Fig. 7. *R.U.R.*, Theater am Kurfürstendamm, Berlin 1923

Kiesler's vision for *R.U.R.* and his execution of the physical staging elements was met with acclaim throughout the European avant-garde community. He later recalled:

After the second performance, as I walked out through the stage door at night, a man pushed his way in. He was tallish. I remember he had on a black shirt and a

white necktie, and a monocle was screwed in his eye; his hands were in elegant chamois gloves-and he had no hat. It was van Doesburg. He pushed me aside and asked, "Where is Kiesler?" I was rather astounded at this behavior of a stranger and I said, "He is right here," pointing at myself. He said (evidently surprised), "You are Kiesler?" and he made a sign, as you do when you call your gang, you know. The gang came in and the gang was Kurt Schwitters, Hans Richter, Moholy-Nagy, El Lissitzky, Werner Graeff and Theo van Doesburg. They came in, grabbed me without saying a word, lifted me up, and took me 6 or 7 blocks around the corner to a club where we met Mies van der Rohe and spent the whole night talking about architecture and the future theater (I described "The Endless") and it seemed to each of us as though we were individuals who had known one another for a long, long time. And this is how I joined the group known as "De Stijl," which so ardently continued the job of cleaning up the architecture of the Victorian age which Wagner and Berlage had started. ⁶⁴

Photographs of the set were circulated and published by Theo von Doesburg in *De Stijl*, by Futurist set designer Enrico Prampolini in *Rivista d'Arte Futurista* and also in a German almanac of yearly avant-garde achievements, *Das Querschnittbuch*.⁶⁵

In addition to being published in European art and design circles, the success of *R.U.R* prompted an invitation from von Doesburg for Kiesler to join De Stijl, which he accepted. His newfound notoriety led to an additional commission for another stage design – for the debut of Eugene O'Neill's play, *The Emperor Jones*, directed by Berthold Viertel in 1924, at the *Lustspieltheater* in Berlin.⁶⁶ *The Emperor Jones* tells the story of a despotic ruler of a Caribbean island nation faced with rebellion and overthrow by his subjects. The play is comprised of eight scenes, with scenes two through seven set as a monologue by the emperor as he evades his tormentors and hides in his lush, jungle kingdom. Kiesler created an abstraction of this jungle setting by using a series of slats that were moved or pivoted into various positions and manipulated for each scene change to represent the emperor's rising and falling fortunes as his subjects close in on, and eventually kill, him. While *The Emperor Jones* set didn't employ the same multi-media electromechanical background as *R.U.R.*, Kiesler relied on the fundamental theme that

had taken root within the Constructivist school as exemplified by Poplova—the use of abstract form to create a three-dimensional environment and provide a platform for individual movement through space. Kiesler utilized these same principles as he transitioned from his work for the stage to exhibition design.

Frederick Kiesler and a New Paradigm in Exhibition Design

In 1924, the *International Exhibition of New Theater Technique* was held as part of the Music and Theater Festival of the City of Vienna in hopes of raising the city's profile in European theatre arts of the time. The local authorities permitted the exhibition to be held at the Wein Konzerthaus, in one of the three performance halls⁶⁷ with one proviso: that nothing could be fixed to the perimeter walls. It is no small irony that Frederick Kiesler, who would become one of the most avant-garde, rule-breaking designers, architects and visual theorists of the first half of the twentieth century, would alter the course of exhibition design and by extension, museum-goer experience, by following the rules.

While many designers might have railed against the Konzerthaus authorities, lectured them on the need for fixed structures, and demanded the right to mount the exhibition as they saw fit, Kiesler took a different position. He understood this edict not so much as a preventive measure to avoid nail holes and the need to patch and paint upon removal of the exhibition, but rather as liberation: an unshackling of objects and artwork from perimeter walls and the fixed paths that implicitly led viewers from a gallery entrance on one side of a room to an exit on another side. Kiesler saw that the two-

dimensional nature of flat walls could be replaced by three-dimensional forms placed within a given space, allowing viewers to choose their own paths through a room, circular and infinite. The unwritten rule regarding an exhibition-goer taking a linear, Point-A-to-Point-B, path around a room no longer applied – Kiesler obliterated it. Kiesler would later recall, “It was in 1924-25, in the Vienna of Strauss waltzes, and in the Paris of the Beaux-Arts, that I eliminated the separation between floor, walls, and ceiling, and created floors, walls, and ceiling, as a *continuous whole* [italics original].”⁶⁸

The *International Exhibition of New Theater Technique* contained approximately six hundred drawings, posters, marionettes, photographs, designs and models of avant-garde theater productions, featuring the work of more than one hundred leading playwrights, stage designers, filmmakers and artists with El Lissitzky, Leon Bakst, Alexandra Exter, Natalia Goncharova, Fernand Léger, Francis Picabia, Enrico Prampolini, Hans Richter and Oskar Schlemmer among them.⁶⁹ Kiesler developed a system of exhibit structures for the Vienna exhibit that he named the “L&T System” in order to facilitate the creation of this “continuous whole.” While the floor plans and technical drawings for Kiesler’s exhibition concept no longer remain, we are fortunate to have several photos that show his inventive display system. Theo von Doesburg was so keenly interested in Kiesler’s work that he devoted a ten-page story to the L&T System in his widely read and respected *De Stijl* magazine.

The interest in Kiesler’s L&T System was not the result of the use of sumptuous materials. Simple wooden posts and slats were painted and bolted together in various combinations—some positions fixed and some adjustable by the viewer. All of the fixtures were freestanding and designed to be portable – they could be taken apart and

reassembled in another venue with little effort. There were two types of exhibition fixtures, the “L” (Leger-type), which were more horizontal in nature and provided platforms at varying heights to facilitate multiple viewing angles. The “T” (Trager-type) fixtures were vertical-oriented fixtures, and held the various cantilever devices to move the displayed objects to positions chosen by the viewer. Each of the fixture types were capable of holding an individual lighting fixture, in addition to the ambient light provided by the venue. Kiesler understood from his time in the theater that lighting was essential in the evocation of mood, and given the theatrical content of the Vienna exhibit, it was necessary to provide that option to enhance viewer experience.

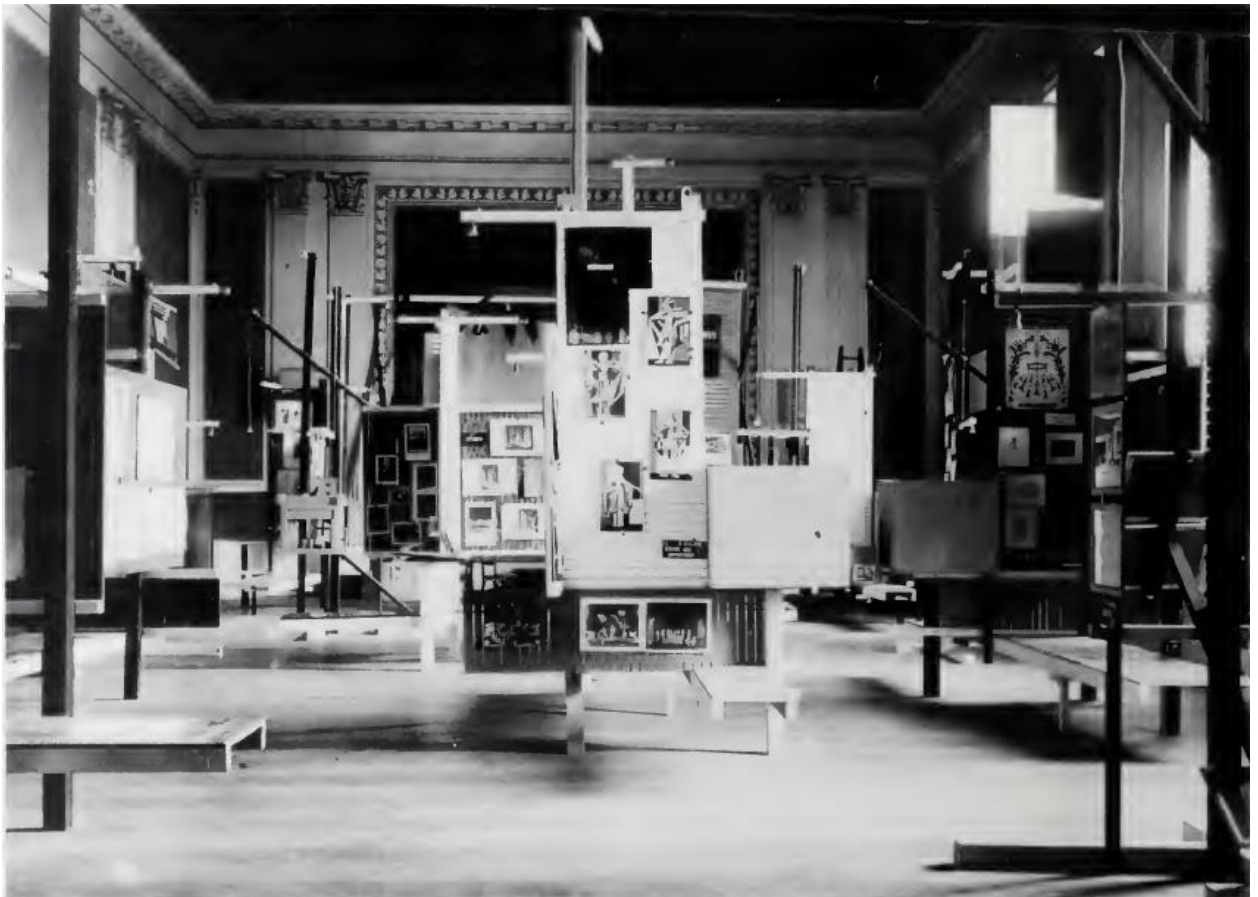


Fig. 8. Frederick Kiesler, *International Exhibition of New Theater Technique*. Vienna, 1924.

In addition to Kiesler's use of viewing angles, lighting, and circulation paths to enhance viewer experience, his L&T System simply and pragmatically created more exhibition space within the fixed dimensions of the room. While the exact measurements of the room and the L&T fixtures have been lost to time, Kiesler estimated that he had created three times the amount of display space⁷⁰ than if he had taken a more traditional approach and followed the layout of the perimeter walls. Not only was Kiesler concerned with the details of viewing individual objects, he also provided more room for more things to be seen. He understood that allowing for sheer volume and depth, the amount of material to be presented could only become part of the viewer experience if the viewer could absorb the material on his or her own terms. This recent three-dimensional simulation (Fig. 9) of the Vienna space shows the density of Kiesler's L&T System in the Konzerthaus, but also the remarkable clarity of organization within the exhibition space. One can also recognize a connection between Kiesler's systematic organization of planes with that of the other members of *De Stijl*. Mondrian wrote in *Neoplasticism in Painting*, published by von Doesburg in multiple installments of *De Stijl*, that "...space is expressed not by naturalistic plastic, but by the (abstract) plastic of the plane" and called for the replacement of "the capriciously curved line by the straight line."⁷¹

The design principles espoused in Kiesler's exhibit in Vienna also recall those of fellow member of *De Stijl* Gerrit Rietveld. Rietveld completed the Schröder House in Utrecht in 1924, the same year as Kiesler's exhibit in Vienna. The Schröder House was designed without fixed walls, save for a second-floor bathroom, and instead utilized a series of partitions that allowed for the flexibility to subdivide the interior space into various arrangements. The use of these two-dimensional planes to create three-

dimensional space echo Kiesler's exhibit not only in physical form, but also by the ability of the user (in Rietveld's case by the owner, Mrs. Schröder-Schräder) to experience the space in a self-determinative way.

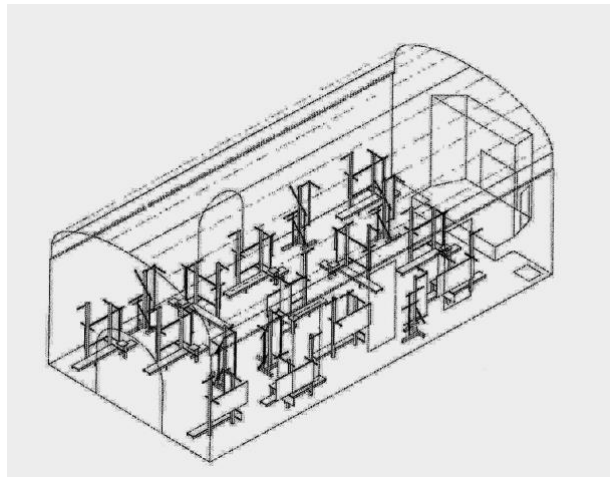


Fig. 9. Axiometric Diagram of Kiesler Exhibit. *Agras*, 2015.

In subsequent years, Kiesler would not always blend such a pragmatic concern with his more visionary ideas, but the balance struck at the Konzerthaus in Vienna in 1924 is remarkable in that these very practical concerns—portability, flexibility, circulation, lighting – would lead to a provocative solution quickly expanded upon by all those working in this new design discipline. By unshackling himself from museum walls – converting “surface into space” – Kiesler altered the course of how objects and artwork would be seen by a museum-going public; he freed his thinking in such a way that all his future endeavors would be conceived in this same spirit of liberation. This was clearly apparent the following year, 1925, in *City in Space*, Kiesler's contribution to the Austrian presentation at the *L'Exposition Internationale des Arts Décoratifs et Industriels Modernes* in Paris.

French cultural authorities discussed the 1925 *L'Exposition Internationale* in Paris as early as 1912, but because of WWI and its aftermath, the exhibition was not built and opened to the public until thirteen years later. *L'Exposition Internationale* is not recognized by the Bureau of International Expositions as a “world exposition,” owing to limited participation by other nations (twenty-six in all), but the 1925 exhibition occupied the same site in Paris straddling the Seine that had hosted previous world’s fairs. Whether or not *L'Exposition Internationale* was officially sanctioned, its influence on design and decorative arts would be felt for the next twenty years, and gave birth to a “modern” style given a new name in the 1960s – art deco.⁷²

The rising tide of Modernism, and the influence of the avant-garde, had washed over much of Europe, its practitioners praising the use of industrial materials, lack of ornament, and mechanized production methods. In the face of these trends, the French were eager to remind the world of their expertise in the decorative arts and handcrafts of cabinet-making, marquetry, ceramics, textiles, etc. The philosophy and work of the modernists, the De Stijl group and the Bauhaus in particular, ran counter to traditional French ideas of organic development and the importance of feeling the hand of the maker in the process – whether what was being made was wine, a couture dress, or an inlaid dressing table.

The French were so eager to reinforce their collective prowess in these crafts that they banished the Swiss-born Le Corbusier and his *Pavilion de l'Esprit Nouveau* to the periphery of the exposition. Corbusier’s urban house, now referred to as a machine for living, and decorated with modernist furnishings that he insisted on referring to as “equipment,” were anathema to the Organizing Committee of the Exhibition. Their initial

position was to ban it altogether; only after the intervention of committee member M. de Monzie, the Minister of Fine Arts, was a site (as marginally located as it was) agreed to.⁷³ The De Stijl group didn't fare as well, and were banned by the exposition authorities from *L'Exposition Internationale* altogether. The Dutch Pavilion instead focused on the traditional arts and crafts people historically associated with the low country.

One might assume that the French authorities were more at ease with the philosophy and work of Austrian architect Josef Hoffmann, appointed as commissioner of the Austrian pavilion at the *L'Exposition Internationale*, given the emphasis placed on handcraft by the Wiener Werkstätte, the organization he co-founded in 1903 with Koloman Moser. The Austrian committee wanted to capitalize on the success of the Vienna Music and Theater Festival, and further emphasize their position in the world of European theater. Based on the overwhelming success of the *International Exhibition of New Theater Technique*, Hoffmann appointed Frederick Kiesler to design a theater exhibit for *L'Exposition Internationale*. The exhibition was not to be housed within the Austrian pavilion, but rather on the second floor of the Grand Palais as part of a multi-nation presentation of new theater technique.

Kiesler was held in such high regard by his colleagues after seeing his exhibition in Vienna that he could have been forgiven for merely re-staging his L&T System exhibit in Paris. The system was (after all), portable, flexible and could accommodate all of the exhibition criteria as easily in Paris as it did in Vienna. But Kiesler was having none of it. A bigger stage demanded a bigger demonstration, and with Hoffmann pushing for a provocative solution, Kiesler did not disappoint. He expanded on his ideas of circulation and spatial relationships developed in Vienna, and created the *Raumstadt* or the *City in*

Space. While the physical construction could accommodate the theater material to be displayed, Kiesler took the opportunity to explain how architecture needed to evolve in relation to the growth of cities in this new, modern era. In addition to the *Raumstadt* itself, Kiesler penned a manifesto that he posted with the exhibit.

Entitled, “Compulsion Directs the New Form of the City,” the manifesto questions the idea of individual houses on small tracts of land, each dwelling walling in its occupants from the outside world. Kiesler goes on to set forth a new order for architecture and a new way to organize how people live:

We will have no more walls, these armories for body and soul,
this whole armored civilization; with or without ornament.

We want:

- 1 Transformation of the surrounding area of space into cities.
- 2 Liberation from the ground, abolition of the static axis.
- 3 No walls, no foundations.
- 4 A system of spans (tension) in free space.
- 5 Creation of new kinds of living, and through them, the demands which will remold society.⁷⁴

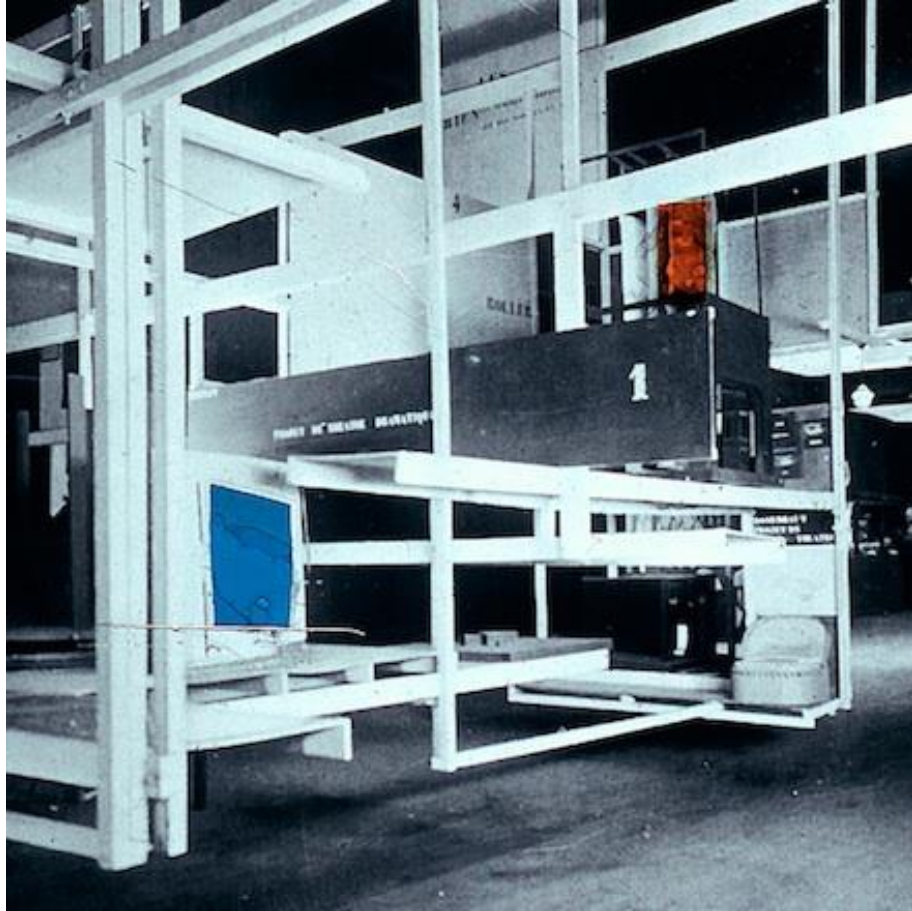


Fig. 10. Frederick Kiesler, *Raumstadt* (The City in Space).

As is true for the exhibit in Vienna, there are no remaining drawings or records that state with certainty the actual dimensions of the *Raumstadt* or provide any detail of its construction. However, based on the records of *L'Exposition Internationale*, it is believed that the space Kiesler was given to install the *Raumstadt* measured 900cm x 1100cm x 2400cm (H x W x L), or 29'-6" x 36'-0" x 78'-9".⁷⁵ Kiesler draped the sidewalls in black fabric to marry with the black floor and create an impression of a horizon-less infinity; by lifting the exhibit off the floor and suspending it from the ceiling, he achieved his desired effect of the exhibit floating "in space." The exhibit structure was again made (like in Vienna) of a timber frame bolted together and painted.

Unlike in Vienna, however, Kiesler integrated accents in the primary colors of red, blue and yellow that were so prevalent in the work of the *De Stijl* group, from Mondrian's paintings to Rietveld's architectural elements. Similar to the community of stage designers that had had formed in Moscow and at the Bauhaus, so too had a group formed in Vienna. Camilia Burke, Hans Fritz, Alfred Roller, Fritz Rosenbaum, Oskar Strnad, Harry Täuber, Wilhelm Trechlinger and other Austrian stage designers were featured in the exhibit, as were technical stage fittings made by the firm Waagner Biro.⁷⁶

Unlike Kiesler's exhibition in Vienna, the *Raumstadt* was not broken into separate exhibit modules or stations but was constructed as a singular entity. Individual works were placed in different planes, and at different heights, but by keeping everything contained within one massive structure – his “city” – Kiesler reinforced his premise regarding the structure of the modern urban environment. This new environment would provide space for individuals to exist within an integrated framework, and allow for movement and changing perspectives as one moves through a particular space. Kiesler would return to this theme, and continue to question the role of architecture to register man's place in a given environment throughout the entirety of his career. The fact that the *raison d'être* for the *Raumstadt* was to display theater equipment was almost incidental to Kiesler's constant investigation of the dimensional space of built environments and man's relationship to it.

Kiesler was not alone in questioning man's place in this new, modern world and how the physical expression of living space might answer this concern. In 1920, Naum Gabo and Antoine Pevsner began their manifesto *Basic Principles of Constructivism* with their own thoughts about space: “We reject the closed spatial circumference as the plastic

expression of the moulding of space. We assert that space can only be modelled from within outward in its depth, not from without inward through its volume. For what else is absolute space than a unique, coherent, and unlimited depth?"⁷⁷ Le Corbusier, writing in *Toward an Architecture* in 1921, states: "Modern life demands, and is waiting for, a new kind of plan, both for the house and the city."⁷⁸

The *Raumstadt* drew the attention of the *cognoscenti* attending *L'Exposition Internationale* in at least equal measure to Kiesler's L&T System in Vienna. The noted French art critic, Maurice Raynal, a leading voice in support of Cubism, and a confidante to Picasso and Juan Gris, wrote a companion essay that appeared alongside Kiesler's manifesto at the exhibition. He shared Kiesler's vision for new ways to consider cities, and wrote, in part:

So. The houses are a kind of pastry, a cheese in which rats and ants bore their subterranean tunnels. Space is boarded up, walled in, suffocated. Basalt, clay, glass, stone or wood - all this plays no role. The living human being is a corpse, shut into a tomb. Walls press hard on life – we do not want them, except perhaps in a cemetery. The power of our life-feeling demands unlimited, unconditional freedom of space. Light and air around and in us. Ah, may we not be pestered with the imperious cult of hygiene: the fantasies of the WC and the bathroom must not by themselves establish the laws. Today hygiene is popular: we need something entirely different.⁷⁹

With the leading lights of the theater avant-garde attending the show in Paris, as well as the artists and architects at the forefront of various progressive design movements, Kiesler took the opportunity to post a petition at the *Raumstadt*, protesting the exclusion of work by members of De Stijl at the *L'Exposition Internationale*. The petition was signed by, among others: Walter Gropius, Oswald Haerdtl, Josef Hoffmann, Adolf Loos, F.T. Marinetti, Auguste Perret, Gerrit Rietveld, Kurt Schwitters, Oskar

Strnad and Tristan Tzara. In two years, Frederick Kiesler, with his clear vision for what could be, and sheer determination, had positioned himself at the forefront of the nascent field of exhibition design. His work on the *City in Space* prompted Mondrian to proclaim “he had done it. Kiesler had achieved what they all had hoped to do one day.”⁸⁰

Chapter 3 The Changing Museum-goer Experience

Alexander Dorner and the Landesmuseum

While Frederick Kiesler's groundbreaking work in exhibition design occurred outside of the confines of the universal survey museum, his influence on these institutions could be seen immediately following his installations in both Vienna and Paris, notably at the Landesmuseum in Hanover, Germany. The Landesmuseum is the largest regional museum in Lower Saxony and houses both natural history and decorative arts collections in addition to its fine art holdings. Alexander Dorner assumed the directorship of the museum in 1925 at age thirty-two, with the belief that museums should reflect life in the present-day and utilize "all possible sensory and intellectual resources of representation" to achieve this aim.⁸¹ He dispensed with the *style de salon* method of hanging paintings, choosing to hang fewer works in a given room to allow the viewer a chance to "breathe" while they absorbed a particular group of paintings. He arranged work chronologically, rather than by school or style, to more clearly chart the progress of art from the past to the present, and he reframed some paintings using more minimal profiles than the ornate, gilded frames that were typically used. He chose frame colors that married more with the colors seen at the edges of a particular painting—the better to make the frame "disappear" and extend the subject matter of the artwork. Dorner set about this work with the intention of creating what he referred to as *Atmosphärräume*, or atmosphere rooms, to better immerse the museum-goer, as much as possible, in a specific culture.⁸² Dorner sought, within the context of a traditional museum, to act as arbiter between maker and

user and to encourage a shift in experience of the artwork away from the sole propriety of the museum to its visitors. It is only logical, given this mission, for Dorner to engage exhibition designers to further articulate his vision.



Fig. 11. Expressionist art exhibition, 1920s. *Landesmuseum*, Hanover.
Bench by László Moholy-Nagy.

The *Landesmuseum* became known in avant-garde circles as the first museum to purchase and permanently exhibit the works of Piet Mondrian, Naum Gabo, Kazimir Malevich, and El Lissitzky,⁸³ and Dorner sought to extend the museum's influence by not only exhibiting these artists, but also by incorporating the philosophical underpinnings of their modernist sensibilities into how the museum displayed their work. He believed that the flat wall surfaces of traditional museums were insufficient to express modern thought, and that the activation of three-dimensional space was a critical component in the opportunity to provide present-day museum-goers with a more profound experience:

We feel that the capture of our environment from a rigid, fixed standpoint, as in the perspectival image construction, results in a constricted space stage (Raumbühne) with massive scenery... captured only in front elevation which no longer correlates to the expansiveness of the space in which we move.⁸⁴

To realize this ambitious new approach, Dorner first called upon Theo von Doesburg to design a room for an exhibit of Russian Constructivist and Cubist paintings that accurately reflected the artistic vision of these new movements and Dorner's own conception of a new kind of exhibition space. Von Doesburg suggested a transparent plane that hung in front of the existing museum surfaces, but Dorner felt it lacked the power to create a new identity for the entire room.⁸⁵ He next brought in El Lissitzky, who took the principles of movement and three-dimensional space first expressed by Kiesler, and created fundamental change in museum exhibition design. Whereas the visitors (the users) to Kiesler's exhibit in Vienna had a specific interest in material related to stage design, El Lissitzky's creation of the *Abstract Cabinet* was meant to be viewed by a general audience seeking a form of cultural enrichment in a public institution. "If on previous occasions... (the visitor) was lulled by the painting into a certain passivity, now our design should make the man active. This should be the purpose of my room."⁸⁶ El Lissitzky's *Abstract Cabinet* featured ribbed, fenestrated walls with each rib painted black on one side, white on the other, and appeared to move and change color as a visitor passed by. Some art was hung with minimal frames, some without frames, all at various heights, with some on movable slides so that paintings could be seen individually or in groups. Showcases were viewable on all four sides and could be rotated by the museum-goer for different viewing angles. El Lissitzky had clearly studied Kiesler's work in Vienna and brought the concept of viewer experience from what was essentially a theater

design trade show into the larger cultural world of the art museum.



Fig. 12. *Abstract Cabinet* by El Lissitzky. *Landesmuseum*, Hanover, 1927.

The *Abstract Cabinet* was met with widespread acclaim in the museum world, and attracted visitors from across Europe and the United States. Dorner welcomed such American visitors to the museum as Katherine Dreier, pioneer collector of modern art and co-founder, with Marcel Duchamp and Man Ray, of the *Société Anonyme*; Albert Barnes of Philadelphia; William Milliken, director of the Cleveland Museum; and Alfred H.

Barr, Jr. and Philip Johnson of the Museum of Modern Art. Johnson wrote of the *Abstract Cabinet*, “It was this kind of experience that first aroused my interest in the Bauhaus Movement and indeed in Modern Architecture in general. I do not believe anything since that period of the late twenties has been quite as exciting for me.”⁸⁷ In the 1950’s, Barr noted, “Thirty years ago the Gallery of Abstract Art in Hanover was probably the most famous single room of twentieth-century art in the world,” and recognized that Dorner’s “imagination and courage made the gallery possible.”⁸⁸

Emboldened by the success of his collaboration with El Lissitzky, in 1930 Dorner commissioned László Moholy-Nagy to create a room adjacent to the *Abstract Cabinet* that would be the last in the chronological line of the museum’s holdings and feature the most current developments in art, architecture, and design, including the relatively new media of photography and film. Dorner was impressed by the Werkbund exhibit at the *Société des Artistes décorateurs* (Association of French Interior Designers), shown at the Grand Palais in Paris earlier that year. The *Section allemande* was organized by Walter Gropius and featured interior living spaces, furniture and household objects for public/affordable housing – but not original paintings and sculpture. Dorner believed that the future belonged to the technical and reproducible – so much so that this new room was meant to exhibit only mechanically reproduced architectural blueprints, photographs, film and industrially-produced objects. The exhibit was called *Room of Our Time*, and in keeping with Dorner’s adherence to the chronological presentation of art, it was the last room a visitor experienced before exiting the museum.

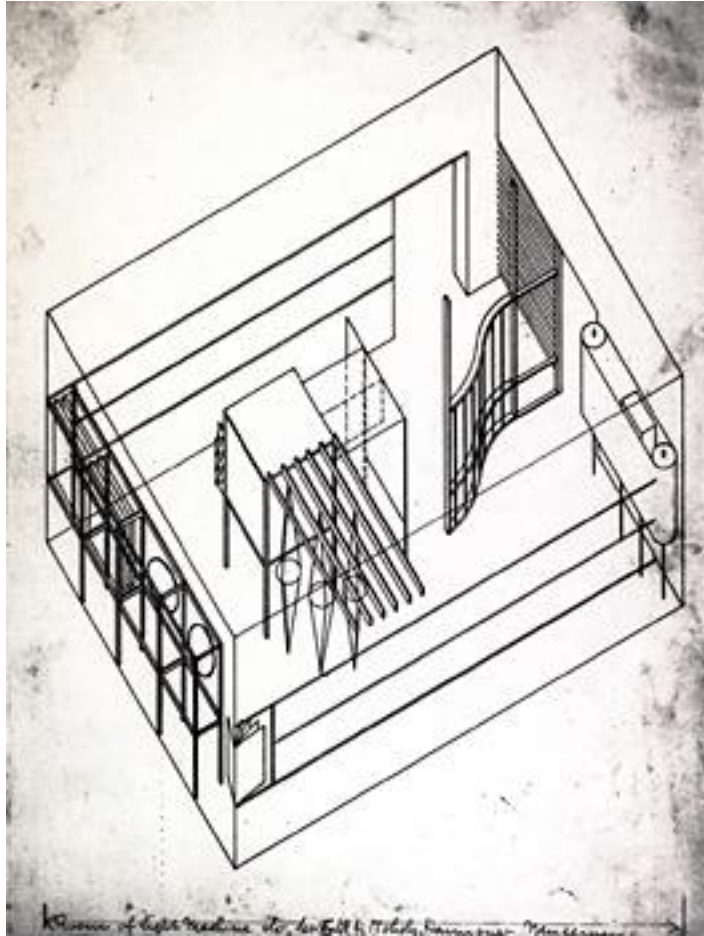


Fig. 13. *Room of Our Time* by László Moholy-Nagy. *Landesmuseum*, Hanover, 1927.

Dorner and Moholy-Nagy encouraged viewer interaction by providing a button that when pushed activated a projector that showed the newest stage designs, including Gropius's design for *Piscator's Total Theatre* and Schlemmer's *Triadic Ballet*. Two other buttons released two short films on two magnifying glass screens set in the wall. Another button activated Moholy's *Light Machine*, projecting a stream of ever new abstract compositions in color. There were more "endless" opaque and transparent screens and, in a corner, the giant pages of a book of illustrations. Two walls had large photographs showing the development of industrial design from the Werkbund to the pend of the Bauhaus, and the growth of modern architecture from Sullivan, Wright, and the Vienna

Secession School to Gropius, Mies van der Rohe, Saarinen, Haesler and Breuer. An explanatory text in large letters was to be a conspicuous part of the display.⁸⁹

This installation allowed museum-goers to experience artwork on a level that best suited their own sensibilities and intellectual curiosity. Dorner ceded, in part, the museum's authority as arbiter of meaning between maker and user, and instead offered the opportunity for visitors to respond to modern creative efforts in an individual and personal manner. "Museum fatigue" could be avoided by active choices made by patrons in what they were seeing (one could choose to push a button or not), how they saw it (by sliding panels or rotating displays), and by the circulation path in which they chose to enter and exit a room. Museum-goers began to be "actors" on these new stages that were built not to mount a theatrical production, but rather to provide a three-dimensional space that facilitated a deeper individual understanding of the artwork and objects being viewed. These new exhibition techniques charted a course that fundamentally changed the work of exhibition designers and began a new period of participatory engagement between museum and museum-goer.

New Forms of Communication between Museums and Museum-Goers

The architecture of exhibit structures such as the *Abstract Cabinet* and the *Room of Our Time* and this new multi-media approach to exhibition design provided some encouragement for museum-goers to see and ascribe their own meaning to artwork, but the new structures alone were not enough. Didactic text, typography and graphics were added as a two-dimensional component within these overall three-dimensional

environments to add information and context to exhibited works. Dorner's decision to add "explanatory text in large letters" to Moholy-Nagy's design for *Room of Our Time* stemmed from his desire to offer museum-goers the opportunity to take in what they were viewing on multiple levels. He had in fact begun adding explanatory text before the installation of *Room of Our Time* when, after reorganizing the art in the *Landesmuseum* in a strict chronological order, he hung this small poster in the doorway of each exhibition room:

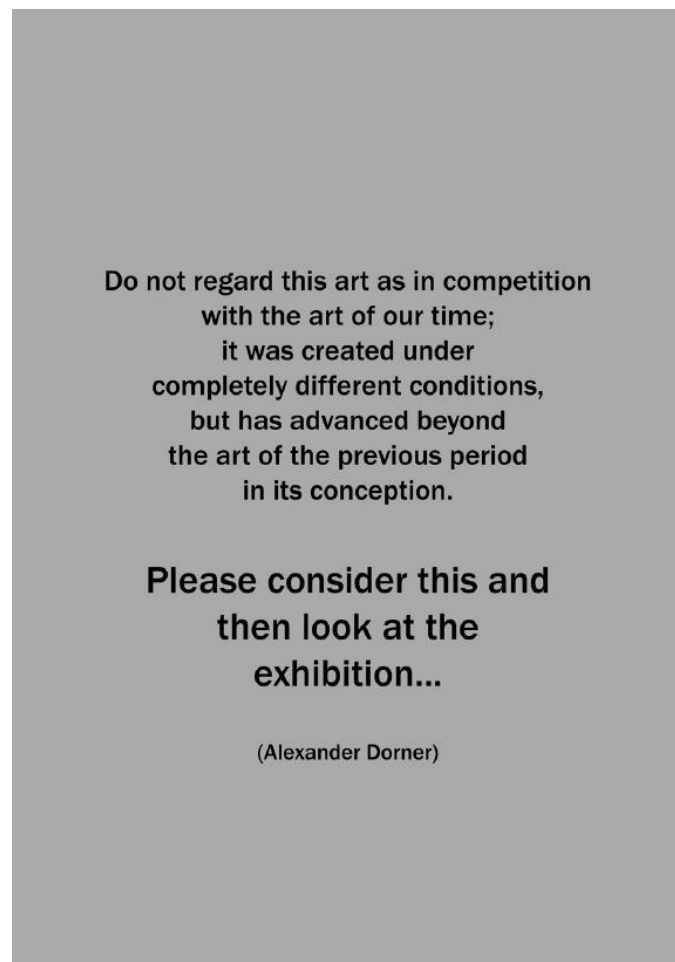


Fig. 14. Alexander Dorner. Illustration by Sandra Karina Lösckke; text translated from German (Katenhusen & Reuning 1993:27).⁹⁰

With this remarkable gesture, Dorner asked museum-goers to not only read museum labels as they moved from gallery to gallery, but also to see works of art in the *context* of what came before, and develop a curiosity for what may come in the future. Dorner saw art and artistic movements not as isolated periods of history but as a continuum; as society and culture evolved, so too did the tools, techniques and subject matter of creative expression. This evolution led logically not only to modern tools and techniques for creating art, but also to new ways of exhibiting it.

Experimentation with text and typography by the Futurists, Constructivists, members of De Stijl and artists at the Bauhaus were an integral component of works produced by these groups as well as others working independently. Just as the modern movement created an environment that encouraged stage and exhibition designers to challenge the conventional organization of three-dimensional space, graphic designers sought alternative ways to organize typography and graphic elements in two-dimensional space. They also began to incorporate the medium of photography into their work, a means of reproducible graphic expression unavailable to their predecessors. The abstract shapes, forms and colors that had been incorporated into paintings by Malevich, Mondrian, and others, gained prominence in modern graphic design. Designers used abstract elements in conjunction with photography and experimental typography to create the illusion of three-dimensional space and a layering of information within the parameters of their two-dimensional formats. It is inevitable that the work of both two- and three-dimensional designers would merge in the multi-media platform of exhibition design. By using graphic tools for explanatory purposes, exhibitions began to be seen as

vehicles not only for the presentation of artwork and objects, but as a means to educate museum-goers and enhance museum experience.

The early integration of two-dimensional graphics into three-dimensional exhibitions occurred outside of the universal survey museum (the Landesmuseum excepted) and was instead demonstrated at themed exhibition gatherings such as *Der Internationalen Presse-Austellung* (International Press Exhibition) held in Cologne, Germany in 1928. Referred to by those in attendance as *Pressa*, the exhibit featured 1500 participants from forty-three countries gathered for this trade fair about publishing and the press. While some nations chose a traditional approach to the display of their national styles of publishing, others—most notably the Soviet Union—embraced the integration of two- and three-dimensional elements to create a new stage for visitors to move through and experience the world of Soviet publishing in an unexpected and visually arresting manner.



Fig.15. El Lissitzky. *The Constitution of the Soviets and The Newspaper Transmissions*.
Soviet Pavilion, *Pressa*, Cologne, 1928.

Designed by El Lissitzky, the Soviet Pavilion at *Pressa* embraced the integrated, multi-media approach to exhibit design initiated by Kiesler four years earlier in Vienna, and wildly exaggerated both the scale of the display and the integration of graphics to bring about an entirely new visitor experience. The designer and typographer Jan Tschihold described El Lissitzky's work for the Soviet Pavilion in an article published in the journal *Commercial Art*:

... in place of a tedious succession of framework, containing dull statistics, he produced a new purely visual design of the exhibition space and its contents, by the use of glass, mirrors, celluloid, nickel, and other materials; by contrasting these newfangled materials with wood, lacquer, textiles and photographs; by the use of natural objects instead of pictures...by bringing a dynamic element into the exhibition by means of continuous films, illuminated and intermittent letters and a number of rotating models. The room thus became a sort of stage on which the visitor himself seemed to be one of the players. The novelty and vitality of the exhibition did not fail: this was proved by the fact that this section attracted by far the largest number of visitors, and had at times to be closed owing to overcrowding.⁹¹

Herbert Bayer attended *Pressa* and later remarked of the Soviet Pavilion, "from there I started to think about exhibition design."⁹² At the *Société des Artistes décorateurs* show at the Grand Palais in Paris two years later, Walter Gropius commissioned Bayer to design a room that featured the latest advancements in German architecture. Bayer used oversize photographs of finished buildings, with identifying information incorporated into the enlargements, as well as scale models, and a reference panel that served as a key to the exhibition room. The photographs, text, and models were arranged from floor to ceiling in a holistic, graphic composition that defied convention in ways similar to the Soviet installation at *Pressa*.



Fig. 16. Herbert Bayer. *Société des Artistes décorateur* Exhibit, Paris 1930.

This new era of exhibition design was marked by the incorporation of text and graphics—and graphic representation—into an exhibit-goer experience that represented a distinct break from previously accepted practice. Rudimentary factual labels weren't replaced, but they began to be enhanced by a dense layering of information—a visual language that worked in tandem with exhibit structures to allow viewers to garner more information and leave the exhibition with a greater understanding of the subject matter. Bayer recognized the possibilities in the incorporation of these communication tools into exhibits:

In exhibition design, we have a new and complex means of communication of the idea, in which elements, such as painting, photography, etc., fill only part of the field. The great possibilities of exhibition design rest on the universal application of all known means of design: diagram, lettering, the word, photography, architecture, painting, sculpture, tone, light and film. It is the apex of all collective efforts, of all powers of design. All elements suited to the purpose of

communicating the idea are included in it, such as enlightenment, advertising, education, etc.⁹³

These new exhibition techniques compelled the viewer to take an active role in the processing and self-editing of information and gain meaning from an exhibit on their own terms. The amount of time they spent with a particular display, how they navigated the sequence of the exhibit, and however much they read and digested an accompanying text created an opportunity for self-discovery; the depth of discovery was increasingly dependent on the viewer in these trade exhibitions. Universal survey museums, however, were not as quick to offer this kind of viewer engagement in the early 1930s. The presentation of information that accompanied the display of artwork and objects in these institutions continued to be communicated by two methods: verbal description by a museum docent, and in written form, by the traditional museum label and guide book.

Museum Labels, Guide Books and Exhibition Catalogs

Benjamin Gilman, the long-time Secretary of the Boston Museum of Fine Arts, had lamented “the problem of the label”⁹⁴ in his 1918 book *Museum Ideals, Of Purpose and Method*. Gilman, as noted previously, questioned the positioning of labels in relation to an object or artwork and their effect on museum fatigue. He also found fault with the very nature of the museum label, regardless of its positioning in relation to a work of art, and listed seven reasons why he found it detrimental in a museum setting:

1. It is often unavailable. Particularly with grouped objects, creating a physical impracticality.

2. It is unsightly. An unharmonious addition that was not composed with the object.
3. It is impertinent. It reflects on an object proclaiming it unknown... and the beholder, ignorant.
4. It is fatiguing. It adds to the labor of the museum visit.
5. It is unsatisfactory. Offering little more than names and dates, it is soon forgotten by visitors.
6. It is atrophying to perceptions. It dulls the interest of looking at a museum object.
7. It is misleading. It does not tell the “close truth” of an object without being cumbersome.⁹⁵

Guide books, as well as exhibition catalogs, served the same function as the museum label, only in digest form. While exhibition designers working outside of the universal survey museum sought to encourage viewer interpretation of presented material through explanatory text and description, museums used labels, guide books and catalogs strictly as written confirmation of what was being viewed by their visitors, as seen in this 1930 Metropolitan Museum of Art exhibit catalog of the works of the American painter Arthur B. Davies.

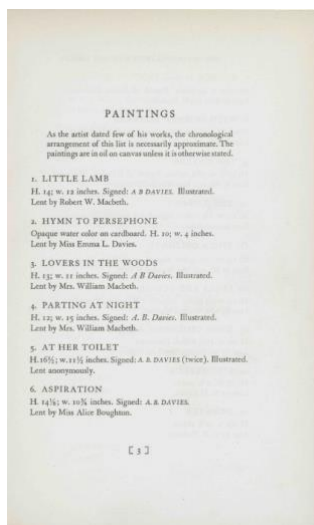


Fig. 17. 1930 Metropolitan Museum of Art catalog page.⁹⁶

There was no attempt to provide context to the work of Mr. Davies, whether by placing his work on a historical timeline of American painting, or offering insight into Davies' work vis-à-vis his contemporaries, or placing his style comparatively within artistic movements in the U.S or Europe. Like the Davies catalogue, the catalogs and guide books typically produced by museums offered only a dry recitation of facts and confirmation of the content viewed on the exhibit's museum labels. They could be seen as much as a social scorecard (as discussed earlier in this thesis) for the listing of museum trustees and lenders to a particular exhibition as they were for the elucidation of museum visitors.

Catalogs and guide books, as Gilman viewed labels, were "offering little more than names and dates... soon forgotten by visitors."⁹⁷ This lack of contextual information maintained the museum's institutional authority over its visitors. Although museums had begun to attract visitors from more diverse socio-economic backgrounds, they continued to reinforce a distinction by class and education in the way they communicated with their patrons. While Dorner and exhibition designers working outside of traditional museums had begun to encourage viewer participation in visual presentations, in effect allowing a dialogue to develop between artwork and viewer, museums still "spoke" to their viewers in monologue form. Unspoken in this approach were the museum's assumptions that the educated were capable of understanding an exhibit with little explanation, and that context and attempts at producing a fuller museum-goer experience would be lost on the uneducated. As Gilman had written regarding museum labels: *3. It is impertinent. It reflects on an object proclaiming it unknown... and the beholder, ignorant [emphasis mine].*⁹⁸

Alfred H. Barr, Jr. and The Museum of Modern Art

The Museum of Modern Art in New York City served as a conduit for exhibition designers working outside of museums to bring new approaches to exhibition design and communication into the established realm of museums. Founded in November, 1929, the museum sought to exhibit the latest advancements in European painting and sculpture, as well as to provide a platform for American modernists. In their initial press release in August, 1929, MoMA took great pains to distinguish itself from the Metropolitan Museum of Art, stating that the Metropolitan's decision to not acquire modern art was, "reasonable and probably wise,"⁹⁹ and that given the transitory nature of art, and the risk of collecting modern art, "the Metropolitan can therefore well afford to wait until the present shall become the past, until time, that nearly infallible critic, shall have eliminated the probability of error."¹⁰⁰ Further, MoMA envisaged (for itself) that "in time the Museum would probably expand beyond the narrow limits of painting and sculpture in order to include departments devoted to drawings, prints, and photography, typography, the arts of design in commerce and industry, architecture (a collection of projects and maquettes), stage designing, furniture and the decorative arts."¹⁰¹ Inherent to this embrace of modernism, it is only natural that MoMA would come to incorporate modern exhibition design as part of its mission, "to helping people understand and enjoy the visual arts of our time."¹⁰²

The founding director of the Museum of Modern Art, Alfred H. Barr, Jr., had traveled extensively in Europe prior to assuming his stewardship of MoMA, and as noted previously, had been particularly taken by El Lissitzky's *Abstract Cabinet* at the

Landmuseum – not only by the physical aspects of the exhibit, but by Alexander Dorner’s creative vision to embark upon and encourage such a project. Dorner’s idea to provide context to exhibited artwork and furnish options for the viewing of artwork in order to heighten museum-goer experience, found an eager audience in Barr, who sought to present American audiences not only with new art, but also with new ways to see it. The museum met with great success in its early years, and by 1936, MoMA had mounted over seventy exhibitions, including shows of American and European painters and sculptors, architecture, industrial design, photography, and poster and typography competitions. MoMA had outgrown its original space in the Heckscher Building at Fifth Avenue and Fifty-Seventh Street and was now based in the larger quarters of a five-story townhouse on West Fifty-Third Street. From the outset of his tenure at MoMA, Barr believed strongly in the museum as an integrated entity that placed design and architecture in equal accord with the fine arts. Restrained by the physical space of MoMA’s original facility and the museum trustees’ reluctance to confuse their initial supporters, Barr’s early exhibitions focused on single categories of subject matter.

In 1936, Barr felt that the time had come for MoMA to widen the scope of its exhibitions and prepared the *Exhibit of Cubism and Abstract Art* show as a means to fully explain the paradigm shift in art and allied professions that had occurred in the first decades of the twentieth century. The full title of the exhibit is *Cubism and Abstract Art: Painting, Sculpture, Constructions, Photography, Architecture, Industrial Art, Theatre, films, Posters, Typography*, but it is generally referred to by historians and critics as the *Cubism and Abstract Art* show. Barr’s ambitious and holistic endeavor was intended as a kind of summation of how all the various factions—working in parallel and separately—

that made up the “modern movement” brought a new aesthetic, cultural and social framework to art, design and architecture. This enormous undertaking required the integrated involvement of Barr’s entire curatorial staff, and to clarify for all of them, he drew up a chart that showed each significant movement on a timeline divided into five-year intervals—from 1890 to 1935—with lines and arrows indicating what-led-to-what. Barr had clearly been influenced by Alexander Dorner’s philosophy that a fuller understanding of art requires a sequential, chronological presentation of artwork and objects that recalled what had come before in relation to what was occurring in the present. To that end, Barr put together a remarkable diagram that delineated the modern movement in an effort to explain the exhibit’s organization; what is even more remarkable is that Barr’s diagram replaced the tried-and-true, traditionally-centered plain typography of an exhibition catalog cover and became the cover for MoMA’s *Cubism and Abstract Art* exhibit.

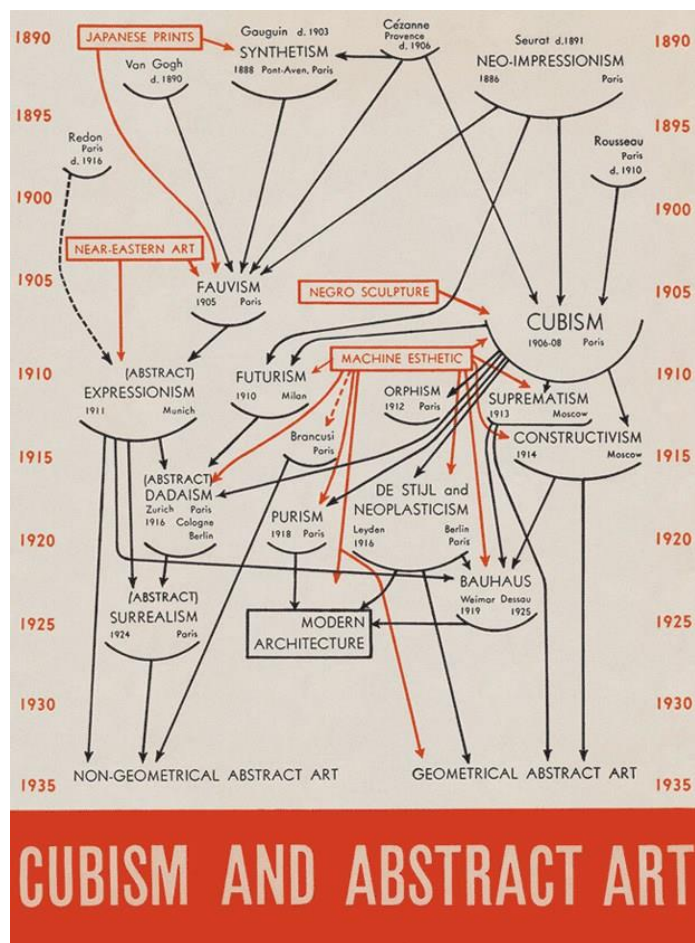


Fig. 18. *Cubism and Abstract Art* exhibition catalog cover. Museum of Modern Art, 1936.

This graphic, didactic approach to the catalog cover reflected Barr's approach to the entire exhibit. From the press release announcing the exhibit:

The purpose of the exhibition is to reveal the development of cubism and abstract art by arranging the material in its historical sequence, and to show the influence of those forms of art upon the more practical arts of today.¹⁰³

Beyond this practical, logical arrangement of material, Barr sought to explain a grand concept to MoMA:

Sometimes in the history of art it is possible to describe a period or a generation of artists as having been obsessed by a particular problem. The artists of the early fifteenth century, for instance, were moved by a passion for imitating nature. In

the early twentieth century the dominant interest was almost exactly opposite. The pictorial conquest of the external-visual world had been completed and refined many times and in different ways during the previous half-millennium. The more adventurous and original artists had grown bored with painting facts. By a common and powerful impulse they were driven to abandon the imitation of natural appearance.¹⁰⁴

Clearly, Barr's ambitious agenda for *Cubism and Abstract Art* called for more than an aesthetically pleasing arrangement of artwork and objects: his desire to display and explain forty years of tumultuous upheaval in the world of art and its allied fields required exhibition techniques and communication tools that had found acceptance at expositions and trade shows, but had not yet been utilized to any great degree in art museums. Just as these modern artists "had abandoned the imitation of natural appearance," so too did Barr abandon the appearance of a typical museum show. Barr's cover diagram served as a didactic motif for the entire exhibit; a diagrammatic chart that contextualized a particular movement was displayed at the beginning of each stylistic section in galleries such as "From Impressionism to Fauvism," "Analytical Cubism," "Futurism," and so on. In addition to the graphic diagrams featured in the painting and sculpture galleries, Barr filled the fourth-floor galleries with documentary photographs, film stills, books, journals, posters, objects, didactic labels, a painting and an architectural model to illustrate movements entitled "Bauhaus," "Purism," "De Stijl," and "Influence of Cubism."¹⁰⁵

Barr's decision to take a holistic approach to the organization of the exhibit and broaden the context of individual movements, was reinforced by his use of explanatory devices throughout, and had the effect (perhaps unintended) of democratizing the museum exhibition. There were no assumptions made that the educated, upper classes

might gain understanding and meaning from *Cubism and Abstract Art* in a way the less-educated could not; this Princeton-educated art history professor, hand-picked by the New York society figures who founded MoMA to be their museum director, presented the exhibit of a complex subject that was confounding and required explanation for *all* museum-goers. Barr projected the authority of the institution in *Cubism and Abstract Art* not only through the sheer volume of items presented (over 400), but also by supplying a body of didactic information to accompany the artwork and objects on display. He deftly played the role of arbiter between maker and user. He gave the museum-goer an opportunity to link a Picasso still life and a Marcel Breuer chair through his grand concept of abstraction—if the viewer was inclined to process the information that the museum provided. He also integrated the decorative arts and design with the fine arts. Writing in *High Brow/Low Brow: The Emergence of Cultural Hierarchy in America*, Lawrence W. Levine notes that with the emergence of the Museum of Modern Art as cultural authority in the 1930s, “the once firm line between the unique products of high art and those of industrial or mass art grew less and less distinct.”¹⁰⁶ This conscious effort by Barr abandoned a hierarchy in the arts themselves and, at the same time, minimized the disparity between the cultural elite and those of lesser social standing. It introduced a broader audience to a broader understanding of modern art, design and architecture.

Cubism and Abstract Art did not employ the mechanical and architectural devices introduced by Kiesler and El Lissitzky to encourage viewer interaction with items on display, but instead utilized two-dimensional devices – graphics and didactic text – to encourage museum-goers to assign meaning to the objects and artwork on display on more personal terms. Thirty-five years later, influential MoMA curator Dorothy Miller

recalled that *Cubism and Abstract Art* was put together, “in no time flat. Alfred had it all in his head... I do remember Alfred’s laying out that catalogue on the living room floor of their apartment. He would never let the catalogue be reprinted when it sold out; he thought it was a hasty job, though, of course, it was the only thing of its kind then.”¹⁰⁷

The democratization of museum-going experience through the use of didactic text and graphic design was not solely the province of the Museum of Modern Art. Alfred H. Barr, Jr. had a soulmate of sorts in Willem Sandberg, director of the Stedelijk Museum in Amsterdam.

Willem Sandberg and the Stedelijk Museum

Willem Sandberg traveled an unlikely path from working as freelance graphic designer in the 1920s to assuming the directorship of the Stedelijk in 1945 at the conclusion of World War II. Sandberg was born in Amersfoort, the Netherlands in 1897 and began his university studies at the Rijksacademie (National Academy for Visual Arts) in 1920 upon completion of his compulsory military service. Bored with the rigid course of study at the academy, Sandberg left after six months and traveled first to Italy, and then to the Académie de la Grande Chaumière in Paris to study painting, though he later remarked that “painting was not for me. I needed interaction with people, I wanted to be part of society.”¹⁰⁸ Sandberg’s travels also included a stop in Vienna in 1927, where he made the acquaintance of Otto Neurath, one of the early members of the Vienna Circle of philosophers, scientists, educators and sociologists. Neurath was the director of the Gesellschafts und Wirtschaftsmuseum, a museum that was a meeting point for the

members of the Vienna Circle and regularly held exhibitions devoted to social and economic issues. Neurath had developed the Isotype method (International System of Typographic Picture Education) to explain scientific and statistical information because he believed in the use of pictograms to democratize the dissemination of information, regardless of educational background or previously acquired experience. Sandberg “was fascinated by the visual statistics and later frequently used that method.”¹⁰⁹ Sandberg’s use of pictographic information paralleled Barr’s use of didactic text and graphic layouts (such as what he used for the MoMA exhibition) for the same purpose. The visualization of information as presented by Sandberg and Barr provided a means to simplify both complex thoughts and data sets in ways that discounted social hierarchy and allowed museum-goers to comprehend explanatory material more easily.

Sandberg also immersed himself in the study of typography, and, by 1928, had returned to Amsterdam and worked as a freelance designer laying out calendars for Dutch publishers and designing window displays for the post office on Zeestraat in The Hague. In October of that year, the Internationale Congres Arbeid voor Onvolwaardigen (an organization devoted to labor practices of the physically impaired) convened in Amsterdam and mounted an exhibition devoted to their cause at the Stedelijk Museum. Sandberg was commissioned to design a room with visual statistics à la Neurath, and produced a series of very large panels “two metres high and one hundred and twenty centimeters wide,”¹¹⁰ thus beginning his long association with the Stedelijk. He designed the museum’s exhibition catalogs and gained a reputation for a keen eye in appraising the museum’s collection. In 1937, the museum director, D.C. Roell appointed Sandberg as curator, and after Roell’s retirement in 1945, Sandberg was named as the museum’s

director. From the beginning of his tenure at the museum until he retired in 1963, Sandberg continued his work of designing exhibition catalogs—he estimated that he created more than 275 of them—and other printed material for the museum including posters, tickets, billboards and advertisements. He believed in a strong graphic identity for the museum, which was unusual for an institution at the time:

I tried to impart an open and clear character to everything I could change so that people could immediately recognize it. If they saw a poster, they could see from the color and the letters that it came from the Stedelijk Museum and if they received an invitation, from the stationery. Everything that was issued by the museum, even a catalogue, must have the same character, normal and vigorous.¹¹¹

Sandberg's goals for the Stedelijk reached beyond creating a clear graphic identity (as ambitious as that was) to creating a dual role for the institution: to champion the modern movement, including industrial design and architecture, and to use the museum as a kind of community center – a meeting point for all. Sandberg stated, “the museum – which used to be something for which you dress up in your dark suit and enter aristocratically, with or without your wife and children and mainly on Sunday – had, in my opinion, to become something that is for a normal workday. It had to become some centre of life.”¹¹² For Sandberg, a self-described “fierce enemy of the high-brow,”¹¹³ the ability for Stedelijk visitors to ascribe meaning to artwork and objects within the collection came not only from the artwork itself, or the way it was hung, but from creating an overall *environment* that fostered inclusion and participation in the total ethos of the museum. Sandberg was willing to surrender the authority of the institution to the community-at-large to maximize its members' potential to create their own experience inside of the museum. The Swiss curator Harald Szeeman, organizer of more than 150 exhibitions and international surveys, and an advocate of conceptualism, land art,

happenings, Fluxus and performance, and of artists such as Joseph Beuys, Richard Serra and Cy Twombly¹¹⁴ recommended to the curator Hans Ulrich Obrist that he study Szeeman's "hero," Willem Sandberg.¹¹⁵ Writing about pioneers in the museum world, Obrist describes Sandberg as "one of the great museum innovators of the twentieth century."¹¹⁶

Indeed, Sandberg's effort to transform the Stedelijk from a staid repository of art to a dynamic, inclusive community center included a wide-ranging list of achievements during his eighteen-year tenure as director:

- The addition of a 6700 sqm. (72,000 sq. ft.) new wing.
- Screening of two films per week, plus Sunday afternoon concerts and readings.
- The mounting of fifty exhibitions per year.
- The addition of a children's classroom.
- Opening of a museum library with separate reading room.
- Creating a workshop for the graphic arts.
- Opening a restaurant and sculpture garden.
- Publication of a monthly newsletter and twenty catalogs per year.¹¹⁷

Sandberg asked rhetorically, "is it a beehive? a museum? or very simply a meeting place for the young and old?"¹¹⁸

Sandberg's desire to create a more inclusive community—political, social and cultural – was shaped in part by his involvement with the Dutch Resistance in World War II. Germany invaded the Netherlands in 1940, even though the nation had declared neutrality. The deportation of Jews began in 1941, affecting many of the artists and writers that Sandberg knew well. Sandberg enlisted his colleagues and used his graphic design skills to create false documents, allowing Jews safe passage out of the country. When the Nazis realized that these false documents did not match records in city hall,

Sandberg and twelve of his colleagues plotted to break into the building and burn the existing records. They were partially successful; twenty percent of the records were destroyed before the fire brigade arrived to extinguish the flames. All of the plotters were apprehended and executed, except for Sandberg, who fled Amsterdam (his wife and son were arrested) and lived the remaining years of the war in hiding on the Dutch border. Sandberg returned to Amsterdam at the war's conclusion, only to find the Dutch populace "sought refuge in the social society as we knew it before 1940."¹¹⁹ Sandberg concluded that "the older generations were lost for renewal and so we had to build on the new ones if we wanted to make this society liveable, make it a human community."¹²⁰



Fig. 19. Stedelijk Museum restaurant and library, 1960.

For Sandberg, logically and simply, a museum-goer's ability to gain knowledge, make an emotional connection or otherwise attach personal meaning to a work of art – and to become a part of a larger community – was not possible unless art was made accessible and could be absorbed by an individual on his or her own terms. Carol Duncan describes the Greek and Roman architectural forms and temple facades of nineteenth-century museums as becoming “the normal language for distinctly civic and secular buildings...(they) brought with them the space of rituals—corridors scaled for processions and interior sanctuaries designed for awesome and potent effigies.”¹²¹ For some they were intimidating. Sandberg describes a 1954 conversation with his barber whose shop was on Van Baerlestraat, opposite the Stedelijk. The barber had been at that location for thirty years, and upon prompting by Sandberg, admitted that he had never set foot in the museum. “I wouldn't know how to behave, it's something for the gentry and has nothing to do with me.”¹²² The conversation gave Sandberg the idea to build a platform on the street corner so that people could peer through the glass façade of the new wing and see the activity within the museum. Sandberg recalls that he was driving by the platform at eight o'clock in the morning shortly after its completion and noticed his barber looking into the museum. Sandberg relates that, “because he looked inside and saw that perfectly normal things were taking place and nothing extraordinary, he became a visitor to the museum.”¹²³ Sandberg's natural inclination to not pre-judge the visitors to his museum, and his aversion to the “highbrow,” drove his desire to make the Stedelijk as inclusive as possible. In the case of his barber (and certainly others), Sandberg lessened the authority of the institution in favor of the individual, and gained a patron as a result.

The democratization and socialization of the universal survey museum advanced rapidly in the middle period of the twentieth century as a result of the practices conceived by the likes of Dorner, Barr, and Sandberg. The pace of these advancements also quickened considerably, and inevitably, with the emergence of computer and digital technology and their integration with the architectural and communication tools previously developed by exhibition designers.

Chapter 4

Emerging Technologies and the Museum Experience

“Artefacts, man-made objects, are objective in relationship to man, the subject. They have an external reality and so it should be possible to view the whole diversity of artefact types and to distinguish properties possessed by every artefact which are accessible to the appropriate modes of analysis and interpretation, and which together offer us a perception of the role of the artefact in social organization. To put it another way, it should be possible to ask the questions *how, what, when, where, by whom* and *why* about every artefact, and to achieve interesting answers.”¹²⁴ – Susan M. Pearce

The art historian and museologist, Susan M. Pearce, has spent her career studying the collection and categorization of artefacts, particularly the relationship of individual artefacts to a collection as a whole. While the nuances and finer points of these relationships have been written and spoken about at length amongst curators and academics for years, the ability of museums to engage museum-goers in these conversations and to provide “interesting answers” to the questions of how, what, when, where, by whom and why, has, historically, been limited by the physicality of the museum itself. Museums typically possess more holdings than they do exhibition space, forcing curators to make choices as to what is on display at any given time. And while the museum label and guide book do provide context to the individual pieces on display, the question of museum fatigue and of how much information a visitor can absorb in a particular visit remains ever-present in viewing an exhibition. However, this paradigm began to change with the emergence of computer and digital technology in the last decades of the twentieth century. While exhibition designers beginning with Frederick Kiesler and El Lissitzky used three-dimensional space to encourage greater viewer interaction with artwork and objects, today’s designers also use cyberspace to impart meaning and enhance museum-goer experience. Pearce writes that, “objects embody

unique information about the nature of man in society: the elucidation of approaches through which this can be unlocked is our task, the unique contribution which museum collections can make to our understanding of ourselves.”¹²⁵ The emergence of digital technology in universal survey museums as well as smaller museums devoted to art and design has created new and different paths to understanding impossible in the pre-digital age.

Pearce has concerned herself with understanding the relationship of individual pieces within a larger collection of objects and what that means for museum-goers. The French anthropologist and philosopher, Pierre Bourdieu, has considered the individual museum-goer in relation to the cultural institution and writes that the understanding of self through the “consumption of culture reveals the individual’s intention to affirm his or her social standing”¹²⁶ – a statement that echoes the importance of social standing to the founding of the universal survey museum (discussed in the first chapter of this thesis). Dr. John Falk, writing about museum visits in 2009, asserts that, “the visitor can take on different temporary identities (explorer, experience-seeker, facilitator, fan, regenerator) that may vary during the course of a single experience or from one visit to another.”¹²⁷ Tom Hennes, founder of the contemporary exhibition design firm, Thinc Design, states matter-of-factly that, in sum, “exhibits are environments in which complex interactions occur among visitors, objects, environment, and meaning. They are places of experiences as unpredictable and idiosyncratic as the individuals who visit them.”¹²⁸ The postmodern notion of plurality of self and desire to contextualize experience within a personalized or individualized framework has been reinforced by the introduction of digital technology within museums; a singular, institutional or authoritarian construct has been ceded, in

many ways, to individual truths.

The universal survey museum, as well as other museums, have become even more increasingly places of “unpredictable experience” with the emergence of digital technology. Mediation devices, such as audio guides, smart phone apps, touch screens, etc., have become essential tools used by museums in their institutional role as arbiter between makers and users, allowing for the dissemination of information in ways previously unavailable to museum-goers. The widespread use of digital technology, while overwhelmingly acknowledged for its ability to bring more information to museum-goers, nonetheless begs the same questions that were being asked in Mannheim in 1903: how could museums “bring themselves into touch with the working people,” and what were museums doing to “render their treasures more useful to a wide public.”¹²⁹ While the overt class distinctions of museum-goers that were prevalent in the beginning of the twentieth century have largely dissipated, the desire of museum administrators to broaden their potential audience and “render their treasures more useful to a wide public” remains – as does the museum’s desire to underscore its own importance through attendance figures and profit.

The Beginning of Mediation Devices in Museums

The first use of a mediation device in an art museum –the audio guide – can be found, perhaps unsurprisingly, at the Stedelijk Museum in Amsterdam. In 1952, Willem Sandberg commissioned the Dutch electronics company, Philips, to develop a radio headset that visitors could use for a self-guided tour of key holdings in the museum as

part of Sandberg's ongoing effort to make the Stedelijk more accessible to visitors. By presenting the information via a human, conversational voice, as opposed to a fixed label on a wall, the museum could speak to their visitors (literally) in a new way. Sandberg's pre-recorded audio guide had its limitations – it required a linear and fixed path through the museum, and allowed only a limited amount of time to be spent in front of any one artwork. For the first time since the advent of the universal survey museum, though, museum-goers had an alternative to either the docent-led tour, museum label, or guide book, as a means of gathering information to attach meaning to what they were viewing. Sandberg's audio guide was introduced at the same time as the ICOM (International Council of Museums) conference was being held in Amsterdam, providing widespread exposure within the museum community to the Stedelijk's new device. Loïc Tallon, Chief Digital Officer of the Metropolitan Museum of Art, notes:

Above all, I believe that it was the innovation and potential embodied within the audio guide that best explains why the Stedelijk Museum 'invented' it. Whilst one could claim that what was achieved by the system could have been achieved through trained docents, this is too narrow a perspective. After all, this innovation went on to spawn what was arguably the most successful museum technology of the 20th century, and one of the most exciting of the early 21st century.¹³⁰



Fig. 20. The first museum audio guides, 1952. Stedelijk Museum, Amsterdam.

Indeed, the proliferation of audio guides in universal survey museums (and their successor, the smart phone app) has become an integral component of museum-going experience in the fifty-plus years since the debut of the audio guide at the Stedelijk. The growth of electronic, and now digital, devices used in museums has increased steadily since their introduction there in 1952. While the early versions of these devices were maintained and issued by the museum, they have largely given way to mobile applications downloaded to user-owned smartphones and tablets. By 2012, 57% of museums (all categories) in the U.S. and UK offered visitors a mobile platform for visitor engagement, whether a museum-supplied or visitor-supplied device, according to research jointly commissioned by The American Alliance of Museums and The Museums Association (UK). Overall, museums with less than 50,000 visitors per year accounted for the majority of those not offering a mobile platform, primarily for lack of budgetary resources. For art museums only, the percentage of visitors using a mobile platform averaged 70%, and in an accompanying questionnaire, museum management officials ranked “increase visitor engagement” (with an 86% response rate) as their most desired goal of providing mobile platforms to their visitors.¹³¹

But does an “increase in viewer engagement” equate to a more profound museum-goer experience? While these platforms provide more information than can be found on a museum label and provide links to related works and artists of the same school, the researchers Dirk vom Lehn and Christian Heath have found in one study that “Whilst the visitor stands at the exhibit... he or she remains oriented to the device, which shows text, images or short films, rather than the artwork. The PDA (Personal Digital Assistant) displaces and becomes a substitute for the authentic object.”¹³² This digital displacement

stands in contrast to the concept of viewer engagement espoused by exhibition designers beginning with Kiesler—the concept that offered the viewer options to engage an object, view it and ascribe meaning to it on his or her terms.

Tom Hennes asserts that museums “have a great power to influence perception, but that their users' perceptions (and interpretations of the experience) are shaped profoundly by their previous experience.”¹³³ The previous experience of museum-goers, discussed by museum officials in terms of educational background and social standing at the beginning of the twentieth-century, changed during the modern movement; a wider net was cast to capture an audience with a greater range of educational or life experience during this period of the democratization of art museums. Through the manipulation of three-dimensional space and inclusion of a range of communication tools, exhibition designers gradually had surrendered a portion of a museum's institutional authority in exchange for a museum-goer bringing his or her experience to bear in understanding an artwork. In the digital age, even though a museum maintains responsibility for the content that a viewer is able to access on its digital guides or smart phone app, in effect, their authority as arbiter between maker and user is further dispersed. The physical walls of the facility may hold the museum-goer, but their mobile device can act in competition with the authentic object for the individual user's attention.

Mediation Devices and Socialization in Art Museums

Harvard professor Philip Fisher describes experience of the arts as fitting into one of two categories: cultures of engulfment and cultures of distraction.¹³⁴ Reading a novel,

listening to music or watching a film in the privacy of one's own home constitutes a culture of engulfment – a situation that allows an individual a solitary immersion into the subject matter and the opportunity to connect to a creative work (and creator) one-to-one. Fisher designates performance arts, such as dance, theater and live concerts, as cultures of distraction that “were governed by conventions of sociability both before and after the performance, even though, for the time of the event, each spectator was silent and alone.”¹³⁵ Art museums, Fisher argues, have given up “the most important drive within culture over the past two hundred years: the elaboration of a technical means to intensify our solitary experience of a single cultural object. The museum building, the crowd, the temptation to observe people or see things in combination, to see them rapidly, and often while holding a conversation about them – these are aspects of the torn culture of distraction.”¹³⁶

The culture of distraction and socialization of art museums began—as it did at Willem Sandberg's Stedelijk Museum—with the addition of cafés, gift shops, children's learning centers and other group-focused spaces. It has been hastened by adding the repertoire of mediation devices used by these institutions in the last fifteen years such as the smart table and information kiosk. Smart tables and kiosks act as a kind of way station in museum settings; the institution uses them to provide information to more than one person at a time, and they are located in centralized areas within museums to promote group behavior in the gathering of information. A museum app on a PDA or smartphone possesses the ability to provide contextual information for an exhibited artwork, but that information is received individually and at the discretion of a single user; in contrast, smart tables and kiosks provide a multi-user experience. Elodie Jarrier and Dominique

Bourgeon-Renault note that "...multi-screen touch-screen tablets with augmented reality have varied effects, based on the age, knowledge and emotions of the individual, time spent, and social interactions. They can lengthen the visit and make it more sociable and enjoyable, facilitate parent-child exchange and facilitate reading at different levels. (Gagnebien et al., 2011)."¹³⁷

Micah Walter, Digital Director at Cooper Hewitt, Smithsonian Design Museum confirms that their smart tables are often used as family gathering spots during a museum visit, and that typically children instruct parents and grandparents about the navigational tools and breadth of content available for perusal.¹³⁸ These smart tables and kiosks not only provide in-depth information for the objects on display, but also provide links to objects in the museum collection that, due to physical space constraints, are not available for actual viewing by the museum-goer. In the case of Cooper Hewitt, the museum's relatively modest 17,000 square feet of exhibition space (The Metropolitan Museum of Art houses 2,000,000 square feet of exhibition space, MoMA has 630,000 sq. ft.) allows less than five percent of its collection to be on display at any given time. With digital technology visitors can access its entire collection of 200,000 objects.

The use of digital technology has not gone undisputed, and the questions regarding the use of technology employed by museums are not new. In fact, today's digital technology employed by museums to link visitors of a particular exhibition to the institution's entire holdings was already addressed by designers Charles and Ray Eames at the Metropolitan Museum of Art in 1975, fifteen years before the birth of the World Wide Web. Charles Eames produced a nine-minute film entitled *Metropolitan Overview* that, in addition to offering a simulated tour of the museum, and "perhaps the first –

computer-operated catalog of works of art.... People could go to a computer terminal and punch up a reproduction of an artist's work, and then use the computer to bring up images of other works by that artist, or other works from a particular period or a particular place, or the record of a past exhibition."¹³⁹ Publisher and philanthropist Walter Annenberg was captivated by Eames' presentation and one year later, offered The Met forty million dollars to construct a new wing to advance the Eames' vision. At that point, as Paul Goldberger recounts in his telling of the story, "all hell breaks loose."¹⁴⁰

Eugene V. Thaw, a prominent art dealer, writing in the London journal *The Spectator* in January 1976, asked of the proposal, "will the manipulation of works of art in the variety of media techniques proposed bring the public closer to art or keep them further removed? It may be that freedom of thought and democratic ideals of popular education are both better served by the passive museum which simply puts the best art it can on display and lets each of us form his own ideas."¹⁴¹ Rebutting Thaw, Douglas Dillon, the museum's president, stated, "I differ very thoroughly with that. Not everybody can go to the museum. The number who can is infinitesimal compared with the number that can be reached by enhanced techniques and perhaps stimulated to go and see the real object. The idea is that by these techniques the museum will bring art here from very distant places and make our art available to the world."¹⁴² The two sides of the debate captured in these quotes could not be brought together at the time, and by 1977, frustrated by the controversy engendered by the proposal, Annenberg withdrew his offer. With the advancement of technology in the ensuing decades, Charles and Ray Eames' vision for what was possible in museums, the movement from Thaw's "passive" museum to today's "active" institution has become commonplace.

The Cooper Hewitt Pen

Cooper Hewitt expanded its use of digital technology and became a more “active” museum in conjunction with its renovation and re-opening in December, 2014, by introducing the Cooper Hewitt pen – a device that allows museum-goers to not only access a wide range of information relating to objects in the collection during a visit, but to store information and transmit it offsite for retrieval at a later date whether at home or in any location of their choosing. Cooper Hewitt grants permission to visitors – in fact, encourages them – to act as curators in assembling a digital, personal collection of the museum’s holdings and transform their museum experience from Philip Fisher’s socialized culture of distraction to a solitary culture of engulfment. Speaking about the pen, Andrea Lipps, Assistant Curator for Contemporary Design at Cooper Hewitt, acknowledges that while planning “Beauty – Cooper Hewitt Design Triennial,” in 2016, the device was considered essential: “Visitors engage with it, take time to explore the digital tables, and visit their personal collections after the visit, which is terrific. We didn’t consider not using the pen since it provides such a rich and unique lens to engage with the show and our collection.”¹⁴³

The Cooper Hewitt pen was developed for the museum by Local Projects, a digital design firm, working in conjunction with Diller Scofidio + Renfro, architects and designers contracted for the renovation of Cooper Hewitt, and timed to be implemented with the museum’s re-opening after a three-year closure. The pen combines two technologies to function as both a touchscreen stylus during a museum visit and as an

interface to gather information to be retrieved post-visit. During the visit, the pen is used as a stylus on smart tables to access information about the museum collection by pulling it [object from the collection] out of a “river,”—a photographic stream of digitized objects and artwork that flow through the center of the table and can be dragged to an individual standing tableside.



Fig. 21. Cooper Hewitt pen.
www.cooperhewitt.org

The pen is also equipped with a sensor that can read NFC (Near Field Communication) tags that are embedded in the digital tables, and that are a graphic element featured on each museum label. Each object that is scanned by the user is recorded, and a unique URL on each visitor’s ticket that is linked to the pen allows retrieval of the information at a later place and time of the visitor’s choosing. This approach to “self-curating” may embrace a wider, modern-day disposition to the acquisition of information, but it also obfuscates both the role of the museum curator and exhibition designer. Susan Pearce’s idea that “elucidation of approaches...the unique contribution which museum collections can make to our understanding of ourselves,” and Herbert Bayer’s notion that exhibition design provides a “new and complex means of

communication of the idea,” are perhaps lost, or at least obscured, by Cooper Hewitt’s (and other institutions’) desire to create a museum experience and viewer engagement that can occur either within the confines of the museum – or outside of it.

The information captured by the users of Cooper Hewitt’s pen is also captured by the museum. Walter explains that on average a museum-goer “collects” between thirty and forty objects during a visit and that roughly thirty-percent of visitors access the information they collect post-visit. The pen also records all NFC tags that are accessed during a visit and this information is regularly disseminated to departmental curators – and can impact how the museum organizes its displays. If, for example, a Tiffany lamp is accessed four or five times more often than an adjacent object in a particular gallery, a curator may be compelled to include other Tiffany lamps from the collection in the display to enhance this visitor experience. Similarly, an exhibition designer may re-orient or place this Tiffany lamp in a more prominent position within a gallery. While curatorial and exhibition design decisions at Cooper Hewitt are not necessarily dictated by the information gathered from the pen, it stands to reason that this empirical data may wield some influence on both curatorial and exhibition decisions. The digital information supplied by the museum on behalf of artists or makers to users is directly reflected back to the museum *by* users reinforcing the popular appeal of specific artists or makers. This is the democratization of museums writ large.

The Cooper Hewitt pen also serves another purpose that further blurs the line between maker and user: it can be used as a creative tool to transform the user into a maker. The second floor of Cooper Hewitt serves to highlight a rotating exhibition of the museum’s permanent collection and features the Immersion Room – a three-dimensional

space dedicated to showcasing the museum's collection of over 20,000 wallcoverings. The room is empty save for a smart table located near the entrance that is programmed with many samples and patterns from its wallcovering collection. Using the pen (or finger), any pattern can be "activated" and projected on the walls to see and understand how it would appear "in situ." Beyond the activation of existing wallcoverings, the table allows a visitor to create their own, unique wallcovering pattern – from the simplest gesture of a single squiggle to an elaborate pictorial construct; the visitor's creation is projected on the wall for not only themselves to see, but for every visitor to the museum who is in the vicinity. During peak periods, the line of visitors waiting to make the transformation from user to maker extends out of the Immersion Room and into an adjoining gallery. The popularity of this particular room can be attributed, at least in part, to the fact that by using the museum's tools to create a unique, personal expression, the museum-goer is not compelled to make an in-depth study of a master pattern maker such as Sonia Delaunay or William Morris to attach meaning to these masters' work. In this instance, the museum-goer gains an appreciation for the creation of pattern—and those that create them—not by viewing or reading about them, but by using the museum's new technology, however naively, to create patterns themselves.



Fig. 22. Immersion Room, Cooper Hewitt Smithsonian Design Museum.
www.cooperhewitt.org

The Immersion Room is also a platform for the enhanced socialization of the museum experience. Owing to the physical circumstances and public nature of the pattern-making experience, a maker's output is shared with those Cooper Hewitt visitors present in that moment. But there is also a desire, bordering on compulsion, for these pattern makers to share their experience with not only their fellow museum-goers, but with their wider circle of friends and acquaintances through selfies and social media posts. The museum-goer experience of the vast majority of these users-turned-makers is transported outside of the museum environment within moments of its occurrence to thousands of people located anywhere from around the corner to around the world from the museum's home on Ninety-First Street in New York City. Just as Stedelijk director Willem Sandberg hand-painted billboards to be placed around Amsterdam in an effort to encourage more visitors to his museum, these digital billboards serve the same purpose for Cooper Hewitt; they extend the reach of the institution – and its director, curators, etc.

– well beyond its physical structure into cyberspace. The existing Cooper Hewitt pen fosters a dialogue between two parties: the institution and an individual visitor that expands exponentially beyond that. One can imagine that the next generation of the Cooper Hewitt pen may incorporate the ability to link a visitor’s museum visit to his or her social media platform of choice, allowing the museum-goer to share the entire experience with as many “friends” as possible in real time. The effects of decisions made by both curators and exhibition designers given these broadcasted “environments” remains to be seen, but these decisions surely transform “the culture of engulfment” into the “culture of distraction.”

The Exhibition Designer and Digital Technology

As digital technology in museums plays an ever-increasing role in museum-goer experience, the role of the exhibition designer continues to evolve. The manipulation of mechanical devices in exhibits introduced by Kiesler, El Lissitzky, and others, and the democratization of museum environments espoused by Sandberg, have given way to a new set of criteria for exhibition designers to meet the needs of present-day museum-goers. This includes the acknowledgement that visitors, particularly younger ones, enter museums with technological savvy and are in possession of the physical devices (smartphones, tablets, etc.) to access information immediately to engender a meaningful museum experience. However, this paradigm shift in technology does not obviate the fact that museum-goers visit art museums to see something—a painting, a tapestry, an altarpiece—in the hope of gaining an understanding, acquiring a new cultural insight, or

making an emotional connection to a piece of art. The ability to facilitate this kind of visitor response remains the challenge for the exhibition designer. The amount of artwork in a particular gallery, the proximity of individual pieces to one another, the didactic information provided, lighting, seating – all of these factors remain the province of the curator or exhibition designer, regardless of whether there happens to be a smart table or kiosk in the gallery. It is often these visual connections that remain important to comprehending what objects are about or creating one's own meaning.

Tom Hennes has incorporated the concept of “encounter” into the work of his exhibition design firm, Thinc Design. “Encounters in an exhibition occur not only between individuals and objects, or among the people who occupy its space. Some of the most surprising encounters are with ourselves — that is to say, with aspects of ourselves that we have either repressed or not yet fully recognized. In myriad ways, we focus our attention — sometimes fleetingly, sometimes intensely — on the things we encounter there.”¹⁴⁴ This notion of encounter serves as a kind of leveling-of-the playing-field for exhibition designers to think of museum-goers not as typological groups, but rather as individuals who are capable of ascribing meaning to artwork and objects on personal terms. Their embrace of technology becomes less dependent on their level of technical savvy and more on a person's willingness to learn about what they are seeing. Hennes explains further, “I find this useful and exciting because it widens the horizon of creative response we can both support and celebrate within exhibitions — whether on the part of ourselves as makers, or the various communities who find self-representation in them, or the myriad visitor groups that may use them. It de-centers the exhibition from a more-or-less rigid definition of “education” toward the various processes of self-formation and

meaning-making that so many of us observe as the primary activity of visitors in exhibitions.”¹⁴⁵

While the use of digital technology in museums continues to evolve and becomes an increasingly sophisticated tool for exhibition designers, the desire to create a meaningful experience for the museum-goer remains unchanged from the beginning of the democratization of the universal survey museum. Alexander Dorner’s admonition to visitors of the Landesmuseum to view the artwork in the museum in the context of what came before – and what may come after – remains true today, both for the institution and the individual. While the tools at the disposal of the exhibition designer – ranging from the manipulation of three-dimensional space to the use of digital technology – have changed in the last hundred years, the role of the exhibition designer to act as arbiter between maker and user, to create a meaningful museum experience for the museum-goer remains.

Conclusion

On October 21, 1929, the fiftieth anniversary of Thomas Edison's lighting of the incandescent light bulb, Henry Ford opened the Edison Institute in Dearborn, Michigan. At first a private educational facility, the Edison Institute opened to the public as part of the Henry Ford Museum and Greenfield Village in 1933. A long-time friend and admirer of Edison, Ford acquired Edison's entire Menlo Park, New Jersey research facility, had it disassembled, shipped to Dearborn, and meticulously reconstructed so that it appeared to visitors exactly as it existed when Edison worked there. Ford's desire to replicate Edison's facility extended beyond the buildings, their interiors and contents, to include all of the material that Edison's staff had discarded behind one of the buildings, Thomas Edison's trash heap. The contents included glass bottles, tubes, mechanical parts of differing shapes and sizes and various bits of wood and metal. Ford instructed that a glass structure be built, visible on all four sides, with shelves to display the rubbish and a roof to protect it from the elements. To complete the setting, Ford had seven train-car loads of the clay soil and rocks from the Menlo Park facility shipped to Dearborn and strewn around the glass shed.¹⁴⁶

Notably, there was no signage or text accompanying the rubbish display; there was no explanation at all for what the visitor was viewing. Henry Ford directed the construction of this exhibit without the use of an exhibition designer. Describing his mission with the Edison Institute and Ford Museum, he said: "I am collecting the history of our people as written into things their hands made and used... a piece of machinery or anything that is made like a book, if you can read it."¹⁴⁷

Edwin Schlossberg, founder of ESI Design, a design firm in New York City

specializing in exhibitions and experiential environments, posits that by not giving the visitor any information about the rubbish, Ford deliberately chose to separate users from makers. Schlossberg explains that Ford's thinking was guided by the principle that makers—inventors, engineers, scientists, etc.—would implicitly understand the rubbish heap as part of the process of experimentation. They would be able to “read it.” Laymen, on the other hand, would never understand this process regardless of how much information accompanied the display.¹⁴⁸



Fig. 23. “Laboratory Relics.” Edison Institute, Dearborn, MI, 1929.
www.thehenryford.org

No doubt an exhibition designer today would provide an explanatory or didactic text, arrange the pieces chronologically or by typology, and perhaps even isolate key relics integral to a later Edison breakthrough. An exhibition designer might recommend lighting to amplify the breadth of materials used, or design a structure so that all of the relics would be placed at eye level to give a better view of individual details of various

parts and pieces. Or, in this day and age, the glass panels might be fitted with touch screens to offer a still more complete story of what was being shown. Instead, Ford relied on individual experience to drive understanding of the display.

Dr. Harold Skramstad, president emeritus of the Henry Ford Museum and Greenfield Village, writes in 2007 in *The Exhibiting Dilemma*: “The evolution of exhibition design into what is often referred to as ‘experience design’ has created yet more complexity. While there are differing views as to what ‘experience design’ really means, always at the root is the assumption that while the producer of the exhibition controls the design, the visitor will control the experience...”¹⁴⁹ The absence of exhibition designers in the early decades of museums left these decisions and control solely in the hands of museum directors and the state, or private, trustees who governed the institution. Inherent to this view was their belief that museum-goers were equal to them in education and experience. The rise of modernism and the democratization of museums in the early years of the twentieth century, first in Europe and then the United States, invited a new entrant into the hierarchy of museum administrators – the exhibition designer, often an artist him or herself, who felt it was their responsibility to make displays more coherent to a wider public.

Frederick Kiesler, El Lissitzky and others, working alone or in conjunction with enlightened museum directors such as Alexander Dorner and Alfred H. Barr, Jr. shifted control of the museum experience from the exclusive province of museum administrators and placed it, to varying degrees, in the hands of the museum-goer. This transference of power from institution to individual – and the democratization of the museum epitomized by Willem Sandberg at the Stedilijk Museum – is an important factor in the enormous

growth of visitors to museums since the beginning of the twentieth century. Lawrence Levine writes that at that time, individuals within the cultural hierarchy were more interested in the establishment of "enclaves of culture that functioned as alternatives to the disorderly outside world,"¹⁵⁰ than they were in being participants in a shared, popular culture. In *Distinction*, the French sociologist, Pierre Bourdieu, notes that historically, "popular taste applies the schemes of the (working class) ethos, which pertain in the ordinary circumstances of life, to legitimate works of art, and so performs a systematic reduction of the things of art to the things of life."¹⁵¹ Art museums no longer cater only to the educated or socially-connected intelligentsia – the lines of distinction between high and popular culture have been considerably blurred. Museums now employ continuously evolving, sophisticated digital technology to cast an ever-widening net, both within the museum and outside of it via social media, to attract visitors of all social strata. To some extent, this desire to engage a broader audience is necessary to justify the financial obligations of a museum's governors and to maintain the institution's commercial viability. Whereas earlier museums viewed the lower and middle-classes as questionable visitors, contemporary museums welcome everyone—indeed, depend on everyone.

Many museums have adopted the concept of community, a recognition of the particular place in which they are situated or "live," to attract one of the likeliest groups of possible visitors – their neighbors. The Brooklyn Museum, for example, remains open on the first Saturday of every month from 5:00 pm until 11:00 pm, with free admission, deejays, film screenings and gallery talks spread throughout the museum. Evening hours allow people to visit after work – a concept introduced by Henry Cole at the South Kensington Museum in 1853, "to ascertain practically what hours are most convenient to

the working classes.”¹⁵² The museum often features exhibits of Brooklyn-based artists such as the recent *FAILE: Savage/Sacred Young Minds* collaboration between Patrick McNeil and Patrick Miller and *Submerged Motherlands* by Swoon. These efforts strengthen the Brooklyn Museum’s ties to their community and encourage participation in a museum-viewer relationship.

Museums such as the Metropolitan Museum of Art in New York offer views of the museum through the eyes of contemporary artists in their online video series, *The Artist Project*. Artists from various disciplines – Roz Chast, Eric Fischl, William Wegman and Jeff Koons, to name a few – stroll the galleries of the Met and expound on time periods and individual works of art that interest them. Cooper Hewitt invites in designers and individuals of public acclaim or celebrity – recently Thom Browne and Ellen DeGeneres – to curate small exhibitions consisting of objects from the permanent collection. This engagement of popular figures by museums serves to fuse the institution to a popular aesthetic, and not be reliant on what Bourdieu calls “the pure gaze”¹⁵³ of an informed aesthetic disposition.

Finally and importantly, the new digital technologies allow for virtual tours of museums decidedly not in one’s neighborhood. One can supposedly “experience” a museum from the comfort of one’s own home. Virtual tours are available from the largest museums in the world – The Metropolitan Museum of Art, The Louvre and the National Gallery in London among them – to the smaller and more obscure International Surfing Museum in Huntington Beach, California and Orchard House, Home of the Alcotts in Concord, New Hampshire. One can even slide open the bookcase at the virtual Anne Frank House in Amsterdam and “experience” her secret hiding spot. While the efficacy

of these virtual tours in creating a “museum experience” is debatable, they function successfully as a marketing tool in a museum’s effort to attract visitors. Virtual tours of specific exhibitions are also available at museum websites no doubt in the hopes that the armchair visitor will rise up and see it in person.

Recently, on a damp, foggy Sunday morning in Connecticut, this author was alerted (via the Twitter feed of archdaily.com) to the opportunity of taking a virtual tour of Sir John Soane’s Museum in London. The museum is Soane’s former residence and houses his collection of paintings, sculptures, furniture, architectural models, and curiosities. In 1833, he negotiated an Act of Parliament: to preserve his house and collection, exactly as it would be at the time of his death to keep it open and free for inspiration and education,¹⁵⁴ and upon his passing in 1837, the building and its contents became the property of the United Kingdom. And today, 179 years later, I was informed that “curious minds no longer need to visit London to get to know the museum. Discover it here ([link to website](#)).”¹⁵⁵ From a distance of 3500 miles, I could “experience” Sir John Soane’s museum on my iPad. I could enter the building opposite Lincoln’s Inn Fields, mount the stairs hung with Soane’s collected paintings, enter the room containing his collection of architectural models and “stand” before Giovanni Altieri’s *Cork Model of the Temple of Vesta, Trivoli* from the 1770’s.

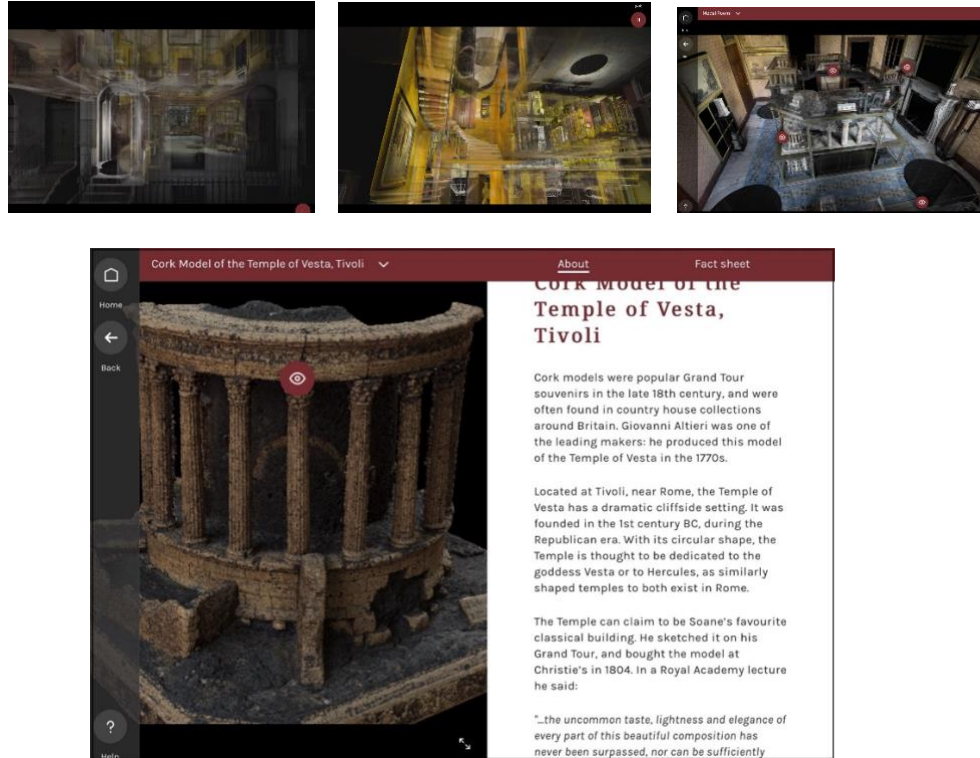


Fig. 24. Virtual Tour, Sir John Soane Museum, London.
www.soane.org

All of this clicking and zooming was no more of a museum-goer experience than one could obtain by opening an *Encyclopedia Britannica*. While the virtual tour simulated three-dimensional space, there was no activation of three-dimensional space as in actual museum visit, and no possibility to navigate the museum on one's own terms. The ability to draw one's previous experience into the context of the exhibition – the ability of an architectural model maker, for example, to examine and appreciate the fine detail and craft of *Cork Model of the Temple of Vesta* – has been limited by the zoom factor of the software program used to create the tour, and the pixel resolution of the device on which the model was being viewed. The sense of wonder one may feel when encountering an

artwork or object for the first time in real life is not matched by the experience of virtual reality.

Baudrillard writes that, “All of our machines are screens. We too have become screens, and the interactivity of men has become the interactivity of screens. Nothing that appears on the screen is meant to be deciphered in depth, but actually to be explored instantaneously, in an abreaction immediate to meaning – or an immediate convolution of the poles of representation.”¹⁵⁶ In a perhaps unintentional irony, Sir John Soane’s Museum (as with others offering virtual tours) has employed the most twenty-first century of tools to revert to a nineteenth-century idea—institutional control of the museum-goer experience. Soane, acting as his own exhibition designer, has been removed from the environment he created and been replaced as arbiter between maker and user by a web designer.

In reality, though – in an actual visit to an actual museum – the role of the exhibition designer has remained constant since the 1920s. Even as the dogmatic beliefs espoused by modernists gave way to the fractured identities reflected in postmodernism, with its espousal of increasingly individualized experiences for more plural and heterogeneous audiences, exhibition designers have continued to create a navigable path for what Charles Moore, writing in *You Have to Pay for The Public Life*, describes as the “tricky zones between delicacy and make-believe”¹⁵⁷ for the museum-goer. Exhibition designers remain in possession, as Ivan Karp states, of “the power to mediate among parties who will not come into face-to-face contact.” Regardless of the shifting dynamics in power between the institution and the visitor, the museum-viewer relationship continues to require the silent encouragement of the exhibition designer. Using the tools

and technology at their disposal to assist the visitor in obtaining knowledge and drawing meaning from the artwork and objects in front of them, and their relationship to other works in the museum, the exhibition designer continues in his or her role as arbiter between maker and user, in hopes of making anyone's visit to an art museum an optimal experience of personal and cultural enrichment.

¹ Universal Survey Museum is a term used by Carol Duncan and Alan Wallach to describe art museums that “present a broad range of art history” and are “indispensable ornaments of any great city.” [*Art History*, 3, no. 4, December, 1980, 452]. The Louvre, the National Gallery in London and the Metropolitan Museum of Art are archetypal universal survey museums. Lawrence Levine notes that class differences among museum-goers were evident in these early museums: bowing to public pressure, the Metropolitan Museum of Art first opened for Sunday hours in 1891. At the time Museum Director Louis P. di Cesnola stated that Sunday visitors were accustomed to the dime museums on the Bowery “and had come here fully expecting to see freaks and monstrosities similar to those found there.” Lawrence Levine, *High Brow/Low Brow: the Emergence of Cultural Hierarchy in America* (Cambridge, MA and London: Harvard University Press, 1988), 183.

² Ivan Karp, “Culture and Representation,” *Exhibiting Cultures. The Poetics and Politics of Museum Display*, eds., Ivan Karp and Steven D. Lavine. (Washington and London, Smithsonian Institution Press, 1991), 15.

³ Carol Duncan and Alan Wallach, “The Universal Survey Museum,” *Art History*, 3, no. 4 (December 1980): 448.

⁴ Collection dispersed in 1812.

⁵ William Beckford, *Dreams, Waking Thoughts, And Incidents; In A Series of Letters from Various Parts of Europe*. ed. David Price (London: Ward, Lock and Co., 1891), Letter 3.

⁶ Duncan and Wallach, “The Universal Survey Museum,” 453.

⁷ Duncan and Wallach, “The Universal Survey Museum,” 454.

⁸ Ibid.

⁹ Gordon J. Fyfe, “Established-Outsider Relations and the Socio-Genesis of the Museum,” *Historical Social Research / Historische Sozialforschung*, 41, no. 3 (2016): 62.

¹⁰ Ibid.

¹¹ Full name of painting: *Consecration of the Emperor Napoleon I and Coronation of the Empress Josephine in the Cathedral of Notre-Dame de Paris on 2 December 1804*.

¹² “The Public Viewing David’s ‘Coronation’ at the Louvre,” *Metropolitan Museum of Art*, accessed September 8, 2016, <http://www.metmuseum.org/art/collection/search/438099>.

¹³ Now the Victoria & Albert Museum.

¹⁴ Edward C. Kirkland, *Industry Comes of Age. Business, Labor and Public Policy, 1860-1897* (New York: Holt, Rinehart and Winston, Inc., 1961), 400.

¹⁵ Wilford I. King, *The Wealth and Income of the People of the United States* (New York: The MacMillan Company, 1922), 79.

¹⁶ Andrew Carnegie, “Wealth,” *North American Review*, no. 391 (June, 1889).

¹⁷ “Table 4. Population: 1790 to 1990,” *U.S. Census Bureau*, accessed September 12, 2016, <https://www.census.gov/population/censusdata/table-4.pdf>.

¹⁸ Alan Trachtenberg, *The Incorporation of America. Culture and Society in the Gilded Age* (New York: Farrar, Straus and Giroux, 2007), 147.

¹⁹ *Ibid*, 144.

²⁰ “The Metropolitan Museum of Art Twentieth Annual Report of the Trustees of the Association,” *Metropolitan Museum of Art*, accessed September 16, 2016, <http://libmma.contentdm.oclc.org/cdm/compoundobject/collection/p15324coll10/id/181161/rec/19>.

²¹ Calvin Tomkins, *Merchants and Masterpieces. The Story of the Metropolitan Museum of Art* (New York: E.P. Dutton & Co., 1970), 74.

²² *Ibid*.

²³ The term “popular culture” was first used by Johann Heinrich Pestalozzi in 1818 in *The Address of Pestalozzi to the British Public*. (Yverdon, 1818). “I see that it is impossible to attain this end without founding the means of popular culture and instruction upon a basis which cannot be got at otherwise than in a profound examination of Man himself; without such an investigation and such a basis all is darkness.”

²⁴ “The Mannheim Conference on Museums as Places of Popular Culture,” *The Museums Journal* 3, ed., E. Howarth (July 1903 – June 1904), 105.

²⁵ *Ibid*.

²⁶ “The Mannheim Conference on Museums as Places of Popular Culture,” 107.

²⁷ *Ibid*.

²⁸ *Ibid*.

²⁹ *Ibid*.

³⁰ *Ibid*, 108.

³¹ *Ibid*.

³² *Ibid*.

³³ The term “Museum Fatigue” is introduced by Benjamin Ives Gilman, Secretary of the Boston Museum of Fine Arts, writing in *The Scientific Monthly*, 1916).

³⁴ Robert Clermont Witt, *How to Look At Pictures* (London: George Bell and Sons, 1903), xiii.

³⁵ *Ibid*, 1.

³⁶ *Ibid*, 2.

³⁷ London, 1863 -90, Paris, 1900, New York City, 1904, Chicago, 1893.

³⁸ Benjamin Ives Gilman, "Museum Fatigue," *The Scientific Monthly* 2, no. 1 (January, 1916), 62.

³⁹ *Ibid*.

⁴⁰ Benjamin Ives Gilman, *Museum Ideals, Of Purpose and Method*, (Cambridge MA: Riverside Press, 1918), 433.

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- ⁴¹ Filippo Tommaso Marinetti, *The Founding and Manifesto of Futurism*, Le Figaro, Paris (February 20, 1909), quoted in Kynaston McShine, *The Museum as Muse, Artists Reflect* (New York: Museum of Modern Art, 1999), 200.
- ⁴² Alexandr Rodchenko, "Declaration on the Museum Management," in Selim Omarovich Khan-Magomedov, *Rodchenko: The Complete Work*, translation by Huw Evans, (Cambridge MA: MIT Press, 1987), 288. [First published in *In Izobrazitel'noe iskusstvo (Figurative Art)*, no. 1 (1919), 85.]
- ⁴³ Ibid.
- ⁴⁴ "A Brief Outline of the History of Stage Lighting," *Northern State University*, accessed September 24, 2016, <http://www3.northern.edu/wild/LiteDes/ldhist.htm>
- ⁴⁵ Adolphe Appia, *Music and the Arte of the Theatre*, trans. Robert C. Corrigan and Mary Douglas Dirks, (Coral Gables: University of Miami Press, 1962), 12, 13.
- ⁴⁶ Harry Payne, "Edward Gordon Craig: The Revolutionary of the Theatre as Hamlet," *Biography* 10, no. 4 (Fall, 1987), 305.
- ⁴⁷ Hans Wingler, *Bauhaus: Weimar Dessau Berlin Chicago* (Cologne: Verlag Gebr. Rasch & Co., 1962), trans by Wolfgang Jabs, Basil Gilbert, (Cambridge, MA: MIT Press, 1969), 31-33. Reprinted by *The Industrial Design Reader*, ed. Carma Gorman, (New York: Allworth Press, 2003), 98.
- ⁴⁸ Ibid.
- ⁴⁹ Mary Anne Staniszewski, *The Power of Display, A History of Exhibition Installations at the Museum of Modern Art* (Cambridge MA: The MIT Press, 1998), 27.
- ⁵⁰ Juliet Koss, "Bauhaus Theater of Human Dolls," *The Art Bulletin* 85, no. 4 (December, 2003), 724.
- ⁵¹ Oskar Schlemmer, László Moholy-Nagy, and Farkas Molnár. *The Theater of the Bauhaus*, trans. by Arthur S. Wensinger, (Middletown, CT: Wesleyan University Press, 1961), 83.
- ⁵² Juliet Koss, 724.
- ⁵³ John E. Bowl, "Constructivism and Russian Stage Design," *Performing Arts Journal* 1, no. 3 (Winter, 1977), 63.
- ⁵⁴ Harold B. Segel, "Russian Avant-Garde Stage Design Travels in the U.S.," *Performing Arts Journal* 14, no. 3 (Sept., 1992), 65.
- ⁵⁵ Rosamund Bartlett, *Victory Over the Sun: the World's First Futurist Opera* (Exeter: Exeter University Press, 2012), 1.
- ⁵⁶ Ibid, 8-9.
- ⁵⁷ B. Livshits, *Polutoraglaznyi strelets*, Lenigrad, 1933, 188, quoted in Bowl *Performing Arts Journal* 1, no. 3 (Winter, 1977), 68.
- ⁵⁸ Bowl, 80.
- ⁵⁹ Yu Elagin, *Temnyi genii*, New York, 1955, 248-249, quoted in Bowl *Performing Arts Journal* 1, no. 3 (Winter, 1977), 68.

⁶⁰ Bowlt, 80.

⁶¹ Segel, 68.

⁶² “Frederick Kiesler Biography,” *Kiesler Foundation*, accessed March, 2016, <http://www.kiesler.org/cms/index.php?lang=3&idcat=16>

⁶³ *Frederick Kiesler*. Edited by Lisa Phillips. New York: Whitney Museum of American Art, in association with W.W. Norton & Company, 1989, 40. Published in conjunction with the exhibition of the same name, shown at the Whitney Museum of American Art.

⁶⁴ Thomas H. Creighton, “Kiesler’s Pursuit of an Idea.” *Progressive Architecture* XLII, no. 7 (July, 1961), 109.

⁶⁵ *Ibid*, 42.

⁶⁶ Barbara Lesák, “Friedrich Kiesler’s Work in Theatre. The Inception of an Interdisciplinary Universe,” http://www.springerin.at/dyn/heft_text.php?textid=2336&lang=en

⁶⁷ Currently identified as the *Schubert-Saal*.

⁶⁸ Frederick Kiesler, undated, untitled manuscript. *Kiesler Foundation*.

⁶⁹ Staniszewski, *The Power of Display*, 4.

⁷⁰ Theo von Doesberg, “Leger und Trager, F. Kiesler,” trans. Alexander Hess, *De Stijl* Serie XII, 141.

⁷¹ “Piet Mondrian’s Neoplasticism in Painting,” *Modernist Architecture*, accessed Oct 2, 2016, <https://modernistarchitecture.wordpress.com/2010/10/17/piet-mondrian’s-neoplasticism-in-painting”-1917-1918/>

⁷² Le Corbusier published articles about the 1925 *L’Exposition Internationale* in his journal, *L’Esprit Nouveau*, and used the shorthand “*arts deco*” to refer to the *arts décoratifs* objects exhibited at the exposition. In 1966, the *Musée des Arts Décoratifs* in Paris mounted an exhibition entitled, *Les Années 25: Art déco, Bauhaus, Stijl, Esprit nouveau*, and “Art Deco” entered the decorative arts lexicon as a term to describe artwork and objects designed in this style.

⁷³ “Works. Architecture.” *Fondation LeCorbusier*, accessed April 16, 2016. <http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=5061&sysLanguage=en&itemPos=44&itemCount=78&sysParentId=64>

⁷⁴ “City = Form Space Net” *Tenth Architecture Biennale Venice*. Venice: Venice Biennale, 2006. Exhibition catalog, 54.

⁷⁵ Dieter Bogner, ed. *Friedrich Kiesler. Architekt Maler Bildhauer. 1890-1965*. (Vienna: Löcker, 1988), 320.

⁷⁶ “City = Form Space Net,” p59.

⁷⁷ Ulrich Conrads, ed., *Programs and manifestos on 20th Century Architecture*. trans. Michael Bullock. (Cambridge, MA: The MIT Press, 1971), 55.

⁷⁸ Conrads, 59.

⁷⁹ Hans Richter, ed. *G. Zeitschrift für elementare Gestaltung*, no. IV. (Berlin: Verlag der Lichtbildbühne, March 1926), 10.

⁸⁰ Shirley Haines-Cooke, *Frederick Kiesler, Lost in History. Art of this Century and the Modern Art Gallery* (Cambridge: Cambridge Scholars Publishing, 2009), 181.

⁸¹ Sandra Karina Löschke, "Material aesthetics and agency: Alexander Dorner and the stage-managed museum," *Interstices: Journal of Architecture and Related Arts*, eds., Sandra Karina Löschke and Desley Luscombe. (Auckland NZ: enigma : he aupiki, 2013), 25.

⁸² Staniszewski, 20.

⁸³ "Dorner, Alexander, 1893-1957. Papers, 1834-1985: A Guide." *Harvard University*, accessed October, 2, 2016. <http://oasis.lib.harvard.edu/oasis/deliver/~art00002>

⁸⁴ Löschke, 27.

⁸⁵ Samuel Cauman, *The Living Museum: Experiences of an Art Historian and Museum Director – Alexander Dorner* (New York: New York University Press, 1958), 103.

⁸⁶ Staniszewski, 20.

⁸⁷ Caumann, 106.

⁸⁸ *Ibid*, 108.

⁸⁹ *Ibid*, 109,110.

⁹⁰ Löschke, 34.

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⁹² *Ibid*, 48.

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⁹⁷ Gilman, 318.

⁹⁸ Gilman, 320.

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¹⁰⁵ Staniszewski, 74.

¹⁰⁶ Lawrence W. Levine, *High Brow, Low Brow, The Emergence of Cultural Hierarchy in America* (Cambridge MA and London: Harvard University Press, 1988), 247.

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¹¹⁰ Ibid, 60.

¹¹¹ Ibid, 131.

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¹²² Marcar, 106.

¹²³ Marcar, 106-107.

¹²⁴ Pearce, 126.

¹²⁵ Ibid.

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¹²⁷ Ibid.

¹²⁸ Tom Hennes, "Rethinking the Visitor Experience: Transforming Obstacle into Purpose," *Curator: The Museum Journal*, 45, No. 2 (April, 2002), 109.

¹²⁹ "The Mannheim Conference on Museums as Places of Popular Culture," 106.

¹³⁰ "Is Augmented Reality the Ultimate Museum App? Some Strategic Considerations." *Mobile Apps for Museums*, accessed November 4, 2016.
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