Design for Militarization in Wartime: Bauhäusler Immigrants in the US

Toshino Iguchi
Saitama University

New Bauhaus / Militarization / War art / Camouflage design / Occupational therapy

This study examines how modern design theory was applied in practice to militarization. For this purpose, I focus on the education conducted by Bauhausler immigrants in the United States at the New Bauhaus and the School of Design during World War II. The School of Design produced tools and products to be used for military purposes. Because the School was facing a financial crisis, the immigrants' design activities were forced not only to serve the country but also as a continuation of their education at the School. Director L. Moholy-Nagy established two unique educational programs: a Camouflage course and an Occupational Therapy course. In the Camouflage course, György Kepes conducted and developed camouflage techniques based on Gestalt psychology. Students performed experiments to investigate visual effects using lighting and coloring. In the Occupational Therapy course, Moholy-Nagy supervised handicapped people in the making of tactile charts composed of various textures for the purpose of gaining emotional experiences. The philosophical background of Moholy-Nagy's educational idea was influenced by the pragmatism of philosopher John Dewey. In this paper, we discuss the issue of the relationship between modern design and war.

1. Introduction

Over the past few decades, a considerable number of studies have been conducted on the Bauhaus and New Bauhaus globally. The results of these studies have proved the historical significance of the Bauhaus. However, little attention has been paid to the relationship between design and war with regard to these institutions.

After closing the Bauhaus, its leading figures, such as Walter Gropius, Mies van der Rohe, László Moholy-Nagy, Herbert Bayer, Marcel Breuer, and Josef Albers, immigrated to the United States where they contributed significantly to the arts after obtaining positions in universities or other institutions. This may suggest that they were successful in the New World, beyond the fires of war, but the history of the New Bauhaus shows that Moholy-Nagy and the other teachers struggled to succeed with Bauhaus ideas in the context of US social and cultural conditions. This study focuses on how the European modernist idea was adapted for production in another country with different social and cultural circumstances. The purpose of this study is to consider the application by Bauhausler immigrants of European modern design to militarization. The paper focuses on the activities at the New Bauhaus in its various guises to discuss the issues that confronted the Bauhausler immigrants during World War II.

The New Bauhaus (1937–38), which was renamed the School of Design (1939–44) and then the Institute of Design (1944–49), is usually regarded as the successor to the original Bauhaus. It is true that when the New Bauhaus was started in the fall of 1937, financed by the Association of Arts and Industries, Moholy-Nagy, as a director, constructed educational programs and a methodology that followed the German Bauhaus style. However, he was faced with problems of financing and education because he misunderstood the American system of money raising and endowments. The reason for the failure of the New Bauhaus lay not in the educational idea, but in management of the school.

During the war, the activities of both native and immigrant were affected by the war propaganda policies. Herbert Bayer worked to produce propaganda for the US Army. He designed the exhibitions "Road to Victory" (1942) and "Airways to Peace" (1943), which were held in the Museum of Modern Art in New York. The displays consisted of three-dimensional picture panels, which were a modernist form of visual communication design developed in Europe. Another example of propaganda activities by immigrant artists is provided by Frederic Kiesler's work. Kiesler worked on the "History of American Architecture" exhibition in the Soviet Union, supported by the US Office of War Information. He designed the exhibition hall using picture panels and text.

Reflection on some of these examples will make clear that immigrant artists had to work to promote militarization in wartime. The masters of the New Bauhaus were no exception. This paper presents three case studies. First, we discuss how modern design ideas were used for the commercialization of the New Bauhaus's sponsor, Container Corporation of America. Second, we analyze the visual experiments at the Light Workshop and the camouflage techniques of György Kepes. Third, we analyze the educational approach of the Occupational Therapy course of L. Moholy-Nagy.

2. *Paperboard Goes to War*, designed by György Kepes

Modern design ideas were used for the commercialization of the Container Corporation of America (CCA). The CCA, founded in 1926, was a paper packaging and package design company based in Chicago, and it became a leader of its industry by associating itself with fine art. Walter P. Paepcke, president of the CCA, was a sponsor of the New Bauhaus and a collector of modern artworks. One of his contributions to the field of art as it relates to business was the exhibition called "Modern Art in Advertising: An Exhibition of Design for Container Corporation of America" at the Art Institute of Chicago in 1945. The exhibition presented 102 works by 44 artists, including the immigrants György Kepes, Herbert Bayer, and Fernand Léger. The CCA also made the modern art series *Great Ideas of Western Man* as an advertising campaign, which ran for over twenty years.

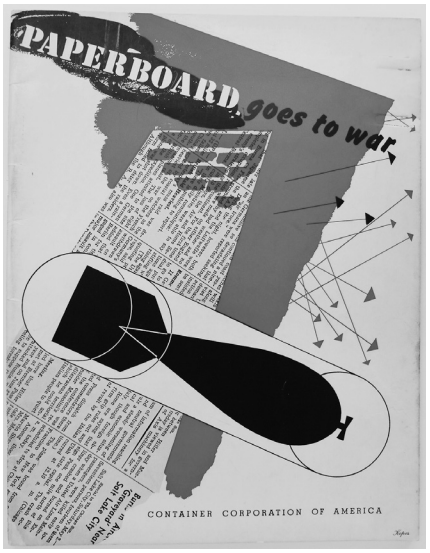

Fig. 1 *Paperboard Goes to War* designed by György Kepes (Bauhaus-Archive Berlin).

During the war, the CCA increased its productivity of paperboard because of the need to transport weapons and foodstuffs to the front. That production occupied 40 percent of all the company's production. In 1942, the CCA produced the commercial pamphlet *Paperboard Goes to War* to promote its business, in which it said:

> Food, ammunition, tank and airplane parts and the other myriad necessities of this mechanical war are now being packed in paperboard to make production and delivery easy and safe.... Container Corporation is proud of its part in the national effort and of the help it has been able to give to its customers engaged in production for war (CCA, 1942: 1).

The 34-page bound pamphlet was designed by György Kepes (Fig. 1).

Kepes worked as an assistant in Moholy-Nagy's design studio in Berlin and London in the 1930s. He immigrated to the United States in the same year as Moholy-Nagy. He became a member of Art Center Chicago, an organization for the advancement of advertising, printing, and industrial arts, in September 1940.

When we see his design on the pages of the pamphlet *Paperboard Goes to War*, we recognize it has a structure typical of a constructivist layout. Kepes used four modern design methodologies, namely, images in the New Objectivity (*Neue Sachlichkeit*) style, a close-up image of a soldier taken from a low camera angle, a layout using diagonal lines, and modern typography. The viewer's eye is guided dynamically to the page spreads. It is an excellent example of visual communication as well as the expression of the corporate identity of the CCA. In 1942, Chicago's Society of Typographic Arts rewarded Kepes, who as a volunteer and patriot had rendered the United States Government extraordinary service.[1]

The war industry was developed with the help of many artists, who had to work in collaboration with corporations to work as artists in the field of design, which effectively meant that artists and art societies had to engage in work connected with the war.

[1] "Citation to György Kepes, The Society of Typographic Arts, Chicago, 1942". György Kepes Papers in Archives of American Art, Smithsonian Institution.

3. Camouflage course, conducted by György Kepes

In January 1942, the School of Design became a certified school for the purpose of camouflaging. The US Government had asked all civilians to serve the country, and Hungarian immigrants Moholy-Nagy and Kepes were no exception. According to a letter dated March 13, 1942, from the Office of Civilian Defense, Chicago Metropolitan Area, to Kepes, the Civilian Morale Division wanted Kepes to serve on a committee to develop a program for civilian morale among Americans of Hungarian descent in the Chicago community.[2] It is clear that establishing the Camouflage course in the School was a response to this. In November 1942, the Camouflage course was prepared as an activity of the Work Projects Administration, War Services Project, sponsored by the Office of Civilian Defense, Chicago Metropolitan Area.

[2] Correspondence dated March 13, 1942, from Dean Leon Green, Director, Civilian Morale Division, to György Kepes. György Kepes Papers in Archives of American Art, Smithsonian Institution.

Until he left the School in 1943, the head of the Camouflage course, György Kepes, taught the light modulator method, visual effects, and making images using multiple exposures and distortion techniques, based on the theory of Moholy-Nagy at the Light Workshop.

How did Kepes apply design techniques for camouflage for the military? How did he relate visual design theory and practice to camouflage?

The Camouflage course was originally planned as a laboratory for the training center needed for instruction in civilian and military camouflage techniques. Such a center could have functioned in two ways: for teacher education or for the preparation of volunteers in civilian and military camouflage.

The teaching programs covered the following subjects: 1) Basic problems of visual perception; 2) Theory of basic investigation; 3) Analysis of camouflage aspects in nature (a) Animals (b) Landscape; 4) Survey of typical problems; 5) Technological applications; and 6) Practical solutions (a) Structural camouflage (b) Camouflage with surface covering (c) Smoke devices (d) The use of artificial light with controlled light patterns.

According of the notebook of student Patrick O'Reilly Bird, who studied on the Camouflage course, a series of lectures on these topics were presented by 15 professionals, including Kepes, from September 1942 to January 1943.

Kepes explained the purpose of the course in his introductory lecture on September 16, 1942:

> Camouflage is the art of deception. The understanding of the visual nature of deception demands the understanding of the fundamentals of visual perception. Without vision, camouflage would be meaningless, without light there would be no vision. Consequently, it is necessary to equip oneself with fundamental physical, physiological, psychological facts relating to visual perception.[3]

The color film *Work of Camouflage Class*, made by Moholy-Nagy around 1943, clearly shows details of the work of the camouflage workshop.[4] This film offers a bird's-eye view of a building that is painted in such a way that there is no building visible, only geometrical patterns, like streets on the ground. Even when the viewing point moved across the sky, it was not possible to identify the structure of the building. This visual technique, using optical illusions to change human perception, was related to Gestalt psychology, a principal field of visual design study at the New Bauhaus.

In addition to his experiences in the laboratory, Kepes established his theory of visual perception in relation to the arts and sciences. His theory is described in his book *Language of Vision*, published in 1944.

[3] "Summary of the introductory lecture for the camouflage course by György Kepes, Head of the Camouflage Dept., School of Design in Chicago, September 16th, 1942". The Special Collection of the New Bauhaus, Bauhaus Archive, Berlin.

[4] The film ©1999 Hattula Moholy-Nagy. "Historic Chicago on Film, Late 40s to the Early 80s, The Chicago Historical Society Film and Video Archive, Ray Pearson's Institute of Design Collection 1930 [sic]–1979. All Rights Reserved Chicago Historical Society".

4. A new approach to education in the Occupational Therapy course of Moholy-Nagy

A wartime draft was re-established in the United States after the Japanese Navy attacked Pearl Harbor in December 1941. More than half of the teachers and students left the School of Design to join the US Armed Forces (Moholy-Nagy, 1950: 182).

The School of Design produced tools and products to be used for military purposes. New inventions by the School included wood springs for mattresses and cushions for soldiers' helmets, on which patent rights were taken out. The idea of substituting wood for metal came from the designers' experience of and research into basic design methods using such materials. In this way, the School of Design contributed to the war through design productions and ideas by teachers and students. In 1944, the School of Design and the WPA Art and Craft Project held a "War Art Exhibition" (Fig. 2).

Although the leaflet for this exhibition exists, the details of the exhibition remain unclear. According to the foreword by Moholy-Nagy, the exhibits included a camouflage demonstration: two light boxes showing the use of light and shadow to conceal the character of forms. He stressed that 'the School of Design in Chicago—because of its past educational policy—has readily adapted its program to the present emergency. Its class room and workshop training, the coordination of hand and brain, helps to make the individual resourceful and inventive'.[5] Moholy-Nagy planned a new approach for the Occupational Therapy course, which was sponsored by the Deputy Director of the Mental Hygiene Service of the Illinois State Department of Public Welfare. His idea found the support of Dr. Conrad Sommer, Chief Medical Officer of the Illinois Welfare Department, Dr. Franz Alexander, Director of the Institute of Psychoanalysis, Chicago, and several other members of the Illinois Occupational Therapy Asso-

Fig. 2 Poster of "War Art Exhibition" (Illinois Institute of Technology University Archives & Special Collections).

[5] Document of "the Renaissance Society of the University of Chicago presents WAR ART Exhibition by The School of Design in Chicago and the WPA Art and Craft Project, Dist.#3". Illinois Institute of Technology, University Archives & Special Collections Galvin Library, Box 3, Folder 6.

ciation. The Occupational Therapy course was held at the School in the Summer Session as one of its war courses, from June 21 to August 1, 1943, and 1944, and as day and evening classes (Fig. 3).

Sommer commented on his experience at the School as follows:

> Group therapy can be linked to psychoanalysis in that it reaches down into the unconscious.... The institute's technique should especially be considered, as adjunct to psychotherapy, for persons who tend to become too passive since it demands of the patient a certain activity in which the unconscious is involved (Moholy-Nagy, 1947: 72).

Sommer's comment seems to suggest that the educational method of the Occupational Therapy course was a success. Why did Moholy-Nagy explore psychoanalysis at the School? The reasoning behind his decision to open the course at the School was as follows:

> The war and the post-war period will need a large number of personnel for the rehabilitation of disabled veterans. They are Army and Navy aviators withdrawn from the combat zone because of operational stress; Soldiers discharged from the Army because of breakdowns during training. [...] Occupational Therapy has to be more scientific and more intuitive at the same time, following the lines of new development in general education, psychological research, psychoanalysis, and scientific motion studies.[6]

Did he consider psychoanalysis for educational programs for military purposes? What did he think about the relevance of design activities for individual education? Moholy-Nagy stressed the aim of this course thus:

> The educational programs for the handicapped people are based upon their experiences through the medium of various materials. They start with skill of the fingers, the hands, the eye and ear, and their coordination. This is accomplished through so-called tactile charts composed of textures for the purpose of gaining emotional experience through their organized relationships; through hand sculptures, carved out of wood, to be manipulated in the hands; through machine wood cuts, which make lumber as elastic as rubber; through paper cuts, leading to the understanding of basic structures. In addition, there is metal work, plastics, weaving, drawing and color, mechanical drawing; plane, volume and space division and their further articulation; photography, motion picture; group poetry; plays, music and dance, so that a full coordination of potentialities can be accomplished.[7]

[6] "New Approach to Occupational Therapy". Special Collections of UIC Library, Institute of Design, Box 6, Folder 186.

[7] "Course in Rehabilitation". IIT Archives, Institute of Design Records, 1937–1955, Box 3, Folder 5. Emphasis in original.

Moholy-Nagy's educational idea was that the students gained 'emotional experience' through a number of exercises. The exercises, such as the use of tactile charts and hand sculptures, were aimed at self-discovery, that is, an awakening of the participants' own creative abilities. We can regard his idea of gaining 'emotional experience' as having been derived from biological theories. The word 'biological' was used in Moholy-Nagy's book *The New Vision* (1938), a revised English edition of his *Von Material zu Architektur* (1928). In this book, he writes, 'the word "biological" stands generally for laws of life which guarantee an organic development... The on coming generation has to create a culture which does not weaken but strengthens the genuine biological functions' (Moholy-Nagy, 1938: 13–14).

Moholy-Nagy's biological vision influenced his sensory education, such as the use of tactile charts composed of textures and the manipulation of lights for visual effect. It is entirely fair to say that Moholy-Nagy's educational policy in the Occupational Therapy course developed from his biological

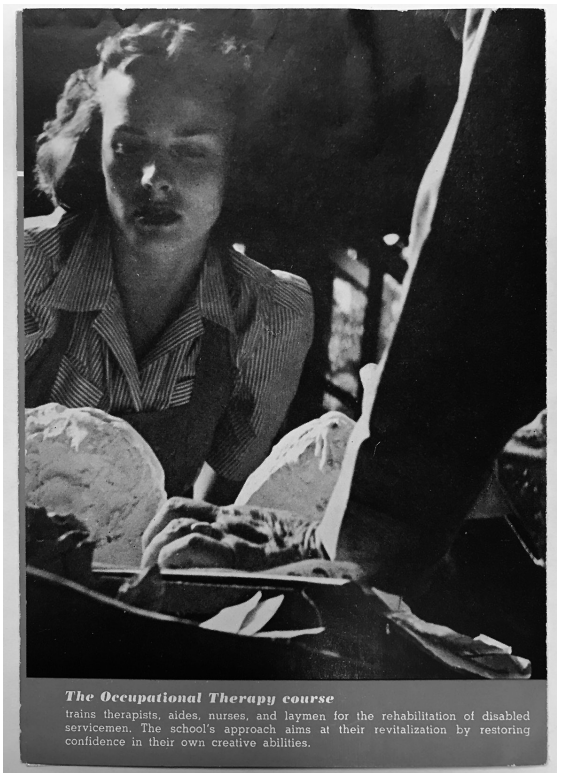

Fig. 3 Leaflet of the "Occupational Therapy course" (Illinois Institute of Technology University Archives & Special Collections).

ideas. As Oliver A. I. Botar suggests, Moholy-Nagy's conception of art was based on the concept of *Bios*,[8] which according to biologist Raoul Heinrich Francé, was the sum of a biological subject's perceptions (Botar, 2011: 259).

Moreover, we can find a relationship between Moholy-Nagy's theory and the educational theory of experimentalist John Dewey, who was known as a pragmatist philosopher and Darwinist. Dewey referred to man as a 'Life Creature' in his book *Art as Experience*, and he argued that the nature of experience is determined by the essential conditions of life: '[L]ife goes on in an environment; not merely in it but because of it, through interaction with it' (Dewey, 1943: 13). It is possible to say that Moholy-Nagy was sympathetic toward Dewey's theory of the human as a life creature. Both educational theories asserted the organic combination of the human and the material in experience. It may also be worth pointing out, in passing, that there was a close personal relationship between Dewey and Moholy-Nagy. Dewey supported Moholy-Nagy as a sponsor of the School of Design.

5. Conclusion

The previous discussion leads to the conclusion that there were two causes for the reform of the curriculum in the New Bauhaus: wartime regulations and the request by a business to target America's consumer society. The New Bauhaus had to meet these demands, whether the teachers liked them or not. However, the experiments in visual thinking from the Camouflage course led György Kepes to develop his ideas for the book *Language of Vision*.

The Camouflage and Occupational Therapy courses, which were not just aimed at designers, challenged the School to extend its educational activities. In particular, Moholy-Nagy's policies of education for humanity through the arts had a chance to develop. He was able to bring his biologist ideas into education in the Occupational Therapy course. Education as he conceived it was for everyone (not only designers) to attain their greatest potential, rather than for military purposes.

[8] According to Botar, 'Biozentrik is the German term that I have adapted for use concerning the early 20th-century world view which, based on trends such as Darwinism, biological determinism and Nietzscheanism, rejected a narrow anthoropocentrism, and espoused a Monist, neo-Vitalist, Holist and ecological view of the world' (Botar, 2011: 259).

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Acknowledgment

I express appreciation to Hattula Moholy-Nagy for her kind support for this research. Many libraries and archives were helpful during the research.

Toshino Iguchi is a Professor at Saitama University and Chair of the DHWJ. Her areas of research interest include visual culture in the media and politics, and art and technology. Her key works include *Hungarian Avant-garde: MA and Moholy-Nagy* (Sairyusha, 2000) and *Central European Modern Art* (Sairyusha, 2013). She organized the 2nd ACDHT Conference (Tokyo, 2017).
iguchi@mail.saitama-u.ac.jp