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Design Education beyond Boundaries

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Japan Society for the Promotion of Science Grant-in-Aid for Scientific Research (A) 2015-2019,
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(Principal Investigator: Haruhiko Fujita, Osaka University)

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The Second ACDHT 2017 TOKYO
"Design Education beyond Boundaries"

The conference proceedings for the Second Asia Conference of the Design History and Theory (ACDHT) comprise a selection of papers presented at conference held at 1st and 2nd September, 2017 in Tokyo, Japan. The theme of the conference is "Design Education beyond Boundaries." Based on the theme, the conference has two strands: "Design Theories and Ideas in Europe" and "Transnational Design in and around Asia."

The conference looks at the historical development of design education related to globalization of design concept and design practice. What have been the roles of trans/nationalism and imperialism in design education? How has design education systems developed as liaisons between local traditional design practice and new global design ideas? Did class and gender influence the developments of design education in particular geographical areas? How have political, cultural, economical and social trends been influential in design education? Can/could the national, gender, class or other boundaries stimulate the development of design education? We hope to exchange views on these questions and many more, and study the field of design education from a much wider, global perspectives.

September 2017, Tokyo

Toshino Iguchi, Saitama University
ACDHT 2017 TOKYO

Theme

I

Design Theories and Ideas in Europe

Criticism of the Bauhaus Concept in the Ulm School of Design

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Abstract

In 1950, the Swiss designer Max Bill was invited to assist Inge Scholl in planning a new school of design in Ulm similar to the Bauhaus because of Bill's experience at the Bauhaus and the modernist works he had developed from the 1930s to the 1940s in Switzerland. When the Ulm School of Design provisionally began its design courses in 1953, Max Bill became its first rector. When the new school building was officially opened on 2 October 1955, the school was expected to be a successor to the Bauhaus school.

However, in 1957, a conflict over educational principles became unavoidable; younger teachers, even Otl Aicher, the co-founder of the school, complained that Bill placed too much weight on art in the design education. In 1957, Bill left the school. New leaders such as Tomás Maldonado opposed certain Bauhaus concepts because they tended to believe more in the tenets of traditional art training. Therefore, in accordance with the complex requirements of the industrial society, younger lecturers encouraged a design education based on the latest scientific knowledge.

A similar reorientation was also seen in the Bauhaus. Hannes Meyer, the second rector, had attempted to exclude purpose-free art training so as to develop practical instruction using scientific approaches. This paper examines the historical significance of the functionalist reformation that took place in both schools with a focus on the fundamental problems with free art training as part of design education.

Keywords: Bauhaus, Gestaltung, Modernism, Free Art, Industrial Design,

Introduction

The ultimate purpose of this paper is to examine the meaning of *Gestaltung*, which was the representative concept for modern design in German speaking areas. As there has been a great deal of research on the history of the Bauhaus and its influences, this study seeks to understand the history of the design concepts and their effect on design education. For this purpose, special attention is given to the *Hochschule für Gestaltung* Ulm (Ulm School of Design) because of its positioning between Bauhaus concepts and those of the more contemporary institutions. This study reconsiders the modernist concept of Gestaltung by: 1) comparing the three *Gestaltung* schools; 2) examining Hannes Meyer's Bauhaus reformation; 3) reviewing Max Bill's contribution as the successor to Bauhaus; 4) discussing the establishment of the Ulm School of Design; 5) investigating the criticism of Bauhaus in the Ulm School; 6) outlining the Ulm Model; 7) and briefly reviewing design education after modernism.

Three Schools of Gestaltung

The names of educational institutions, departments, and subjects are important when tracing the changes in design concepts over time. In Germany from the late 19th century, *Kunstgewerbeschule* (schools of arts and crafts) was established all over the country. The Bauhaus, which started in 1919, had retained the practical workshop based training; however, it did not use the name *Kunstgewerbeschule*. When the Bauhaus moved to Dessau in 1925 when the school was being developed as a central institution of modern design, it adopted a new name, *Hochschule für Gestaltung* (School of Design) as a second name for the school. The German word *Gestaltung* literally means giving shape and refers to a modernist construction concept that is often used as an equivalent for the English word 'design.'

There are three schools of *Gestaltung*, each of which represents design education in each period. The first was the Bauhaus (1919-1933), the second, *Hochschule für Gestaltung* Ulm (Ulm school of Design 1953-1968), and the third, *Hochschule für Gestaltung* Karlsruhe (University of arts and design 1992-). What these three schools have in common is the active inclusion of the scientific technology in order to meet contemporary social requirements; however, there were also differences.

From the following questions, it is possible to examine the changes in *Gestaltung* and design education: 1. How was the term *Gestaltung* used in each school?; 2. What was taught as the basic *Gestaltung* or design common to all special fields?; 3. How was purpose-free art such as painting integrated in the design education?; 4. How was scientific knowledge such as psychology incorporated in the design education?; What discipline was then selected?; and 5. What departments or special fields were embraced under the *Gestaltung* banner?

Bauhaus

Established in Weimar in 1919, the Bauhaus did not adopt any of the names of its predecessors; the *Hochschule für Bildende Kunst* (Academy of Fine Art) or the *Kunstgewerbeschule* (School of Arts and Crafts); which clearly indicated that the Bauhaus was not interested in depictive art or decorative art; instead, the name "Bauhaus" was coined by Gropius to clearly show a preference for constructivist art. In 1926, a second name, *Hochschule Gestaltung* (School of Design), was attached to the Bauhaus in Dessau. The new school building expressed the conception of *Gestaltung* in its own appearance. The voluminous blocks of each unit are clearly assembled into the whole building. *Gestaltung* embraced the two modernist concepts of "composition" as artistic creation and "construction" as industrial production. The Gropius era balanced both these concepts.

In 1928, when Hannes Meyer became the second rector, the Bauhaus continued as a school of *Gestaltung*; however Meyer placed stronger emphasis on functional "construction" than on aesthetic "composition." (Meyer, 1928, p.12) As a result, Meyer attempted to reform the Bauhaus by excluding purpose-free art such as painting, introducing scientific studies such as psychology, reinforcing architectural education, promoting cooperative projects, and becoming involved in city planning. Despite his beliefs, Meyer considered the artist teachers who had contributed to the basic design course, Klee and Kandinsky, by officially allowing them to conduct a free painting class, a class that even Gropius had not allowed. This exception exemplified the conflict regarding the inclusion of free art in design education.

Bauhaus Successor

Swiss designer Max Bill was also a key person in this conflict. While Bill was basically a *Gestaltung* man, he was a multi-talented modernist who painted and sculpted, designed prints, products, and buildings, wrote many essays, and developed design theories. He also acted as a bridge between the two schools of *Gestaltung*; he studied at the Bauhaus and about twenty years later became central to the founding of the Ulm School of Design. Bill studied at the Bauhaus from 1927 to 1928, which was when Gropius left the rector position and Meyer was appointed; therefore, Bill experienced the Gropius era in his first two semesters (Hahn, 2008; Bill, 2008). At the Bauhaus, he studied with Klee and Kandinsky in the free painting class and enthusiastically created paintings *[Fig.1and 2]*. Therefore, Bill possibly left the Bauhaus because of Meyer's functionalism focus.

During the 1930s, Bill became representative of a geometric art called "concrete art," and he applied his artistic composition experience to typographic composition; a development which became the foundation for postwar Swiss typography. Bill's modernist perspective as a product designer was fully expressed in the Swiss Werkbund exhibition *Gute Form* (Good Design) held in Basel in 1949. This exhibition had about 80 panels and toured three Swiss cities, three Austrian cities, three Dutch cities, and six German cities, including Ulm (Müller, 2015), which was when Bill was noticed and invited to become one of the founders for the new school planned in Ulm.

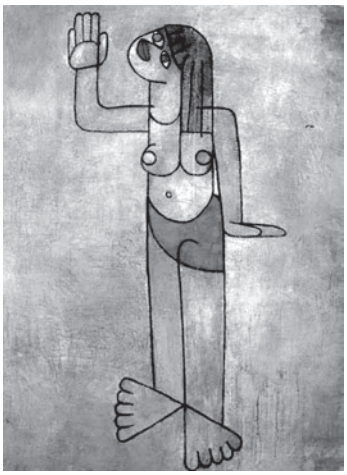


Fig.1 Max Bill, "Dancing Girl" 1927/8. Oil on canvas

Fig.2 Max Bill, "Spatial Composition"1928.2 Oil on plywood

Ulm School of Design

The Ulm School of Design grew into a leading contributor to postwar German design; however, it had originally been planned as a political-journalistic school for the democratization of Germany as its origins were in the White Rose student-based resistance movement against the Nazi regime. The original White Rose Group members, Hans and Sophie Scholl were executed in 1943 for the distribution of flyers; consequently, immediately after the war, their sister Inge Scholl and their friend Otl Aicher established the *Volkshochschule* (Adult Education Center) in Ulm. This school was so successful that plans were made to develop the school into the university named after the Scholl siblings, with the 1949 school plan putting significant weight on political education (Seckendorff, 1989, pp.25ff.).

Otl Aicher had an artistic personality and political ambitions. In 1946, he began studying sculpture at the Academy of Fine Arts in Munich. However, because he wanted to be involved in designing the built environment, he left the Academy after only one year. In 1948 he met Max Bill, who had studied in the Bauhaus and had been developing modern design concepts in Switzerland, a neutral country, during the war. In October 1949, Bill's exhibition *Gute Form* came to Ulm, which influenced Inge Scholl into redesigning the school to be similar to the Bauhaus (Seckendorff, p.34).

In 1950, Max Bill participated in planning the new school based on his Bauhaus design experiences. Bill corresponded with Bauhaus founder Walter Gropius, and referred to the curriculum of the IIT Institute of Design, which was a successor to the New Bauhaus in the USA (Seckendorff, p.39f.). To secure financial support from the American foundation, it would have been unable to recruit the support of the Bauhaus second rector, Hannes Meyer, as Meyer had once been labeled a communist. Gropius' model was, however, more acceptable to Bill as it was more tolerant of artistic creativity than the Meyer model which was hostile to purpose-free art. Even though the 1951 program for the new school of design did not include specific courses on

political studies, it maintained the original purpose of democratizing the country by integrating political education into the general education. While Bill had gained permission by Gropius to name the school Bauhaus (Seckendorff, p.42), Aicher objected (Aicher, 1991, p.124), so the name was finally settled as *Hochschule für Gestaltung*, as this still included the Bauhaus concepts and its modernist traditions. The 1952 brochure stated that the school was a successor to the Bauhaus.

Max Bill was the first rector of the *Hochschule für Gestaltung* (Ulm School of Design), which began classes in August 1953 at the Adult Education Center. Bill believed that the students should first work on "purpose-free aesthetics" in their basic education so as to comprehend design principles through the geometric art (Bill, 1987, p.67). Except for Bill who taught the basic courses, from 1953 to 1955, lecturers Walter Peterhans, Josef Albers, Johannes Itten and Helene Nonné-Schmid, who were experienced in Bauhaus, taught design fundamentals in mostly intensive courses (Wachsmann, 1993).

Based on the Bauhaus model, Bill engaged an international teaching staff, which was the most anti-nationalistic part of the school. The main staffs were Bill (Switzerland), Walter Zeischegg (Austria), Hans Gugelot (Dutch descent, born in Indonesia), Maldonado (Argentina), Friedrich Vordemberge-Gildewart, a German artist who had been engaged in the international movement from 1920s to 1930s, and Otl Aicher, also a German who had had a difficult time under the Nazi regime. From December 1954, classes were taught in a new school building designed by Max Bill. In the official opening of the school building held on October 02, 1955, Gropius gave a speech looking back on the Bauhaus. This ceremony was reported as the actual founding of the Ulm School of Design by regional papers in West Germany, mostly with the Ulm school being introduced as the Bauhaus successor *[Fig.3 and 4]*.

Das neue Bauhaus

Hochschule für Gestaltung wurde in Ulm anspruchsvoll eröffnet

Von unserem Mitarbeiter Wend Fischer

Ulm. — „Ich glaube, wir haben Ihre Idee heute heimgeholt nach Deutschland." Diese Worte richtete Frau Inge Aicher-Scholl bei der Eröffnung der Hochschule für Gestaltung an Walter Gropius, den großen Architekten und Lehrer, der 1919 in Weimar das Bauhaus gegründet hat, an dem er gemeinsam mit Künstlern und Architekten wie Klee, Kandinsky, Feininger, Schlemmer, Mies van der Rohe die Idee einer neuen, Kunst und Technik vereinenden Kultur entwickelte und realisierte.

Das Bauhaus hat weit in die Welt hinein gewirkt, sein Name wurde als „Bauhaus-Stil" zum Inbegriff für die moderne, zweckmäßige und schöne Gestaltung all der Dinge, die Lebensraum und Umwelt des Menschen bestimmen. In Deutschland wurde das Bauhaus 1933 verboten und geschlossen — in der Welt blieb es lebendig und wirksam.

Die Initiative zur Gründung eines neuen Bauhauses ging von einem kleinen Freundeskreis aus, der sich in Ulm um Frau Aicher-Scholl, die Schwester der im Zeichen der „Weißen Rose" gegen das nationalsozialistische Regime kämpfenden und ihren Widerstand mit dem Tod besiegelnden Geschwister Scholl, gebildet hatte. Mit nahezu aufopfernder Geduld gelang es Frau Aicher-Scholl, für die von ihr zum Zweck der Schulgründung ins Leben gerufene „Geschwister-Scholl-Stiftung" die notwendige moralische und materielle Unterstützung zu finden. Aus dem Seelisch-Traumhaften und Geistig-Logischen" zu schaffen. Gropius wünschte der Schule, daß es ihr gelingen möge, die schöpferischen Kräfte zu mobilisieren, die eine „neue Orientierung auf kultureller Ebene" zu schaffen und eine „neue Wahrheit" zu finden vermögen.

Max Bill bezeichnete es als das Ziel der Schule, „junge Leute dahin zu bringen, daß sie all das zu gestalten vermögen, was dazu gehört, unseren Planeten für unser Leben so gut wie möglich einzurichten". Zu dem „dazu" gehört alles, was unsere Umwelt, unseren Lebensraum ausmacht — der Türgriff wie das Haus, die Gestaltung eines Waschbeckens wie die Planung einer ganzen Stadt. Es geht um die „in die Breite gehende Kultur des täglichen Lebens", um die Gestaltung der „einfachen und nützlichen Dinge".

Bill sagte: „Wir wollen durch unsere ehrliche Arbeit, nach unserer wohlfundierten Überzeugung helfen, für möglichst viele Menschen eine den Möglichkeiten und Bedürfnissen unserer Zeit entsprechende Umgebung zu gestalten — praktische Dinge, die das Leben verändern und schöner machen sollen." Kurz skizzierte Max Bill die Arbeitsbereiche der Schule: Grundlehre, Architektur, Stadtbau, Information, visuelle Kommunikation, kulturelle Integration. Zentrale Bedeutung hat die Abteilung „Produktform", in der die Formgebung von Gebrauchsgütern erarbeitet und gelehrt wird. Zum Lehrerkollegium

Fig.3 Kölner Stadtanzeiger (1955, October 4)
"The new Bauhaus"

Kunst:

Das Bauhaus kehrt zurück

In Ulm wurde die „Hochschule für Gestaltung" eröffnet

Die viel erörterte neuartige Hochschule für Gestaltung in Ulm ist vor einem internationalen Publikum offiziell eröffnet worden. Die seit 1953 provisorisch arbeitende Hochschule ist in einer Bauzeit von zwei Jahren nach einem Plan von Frau Inge Aicher-Scholl von der Geschwister-Scholl-Stiftung mit deutschen Mitteln und einem großen amerikanischen Beitrag aus dem McCloy-Fonds ins Leben gerufen worden. In einem selbst als Beispiel gedachten großzügigen Hochschulgebäude werden etwa 75 Studenten von den Dozenten, beide Seiten in internationaler Zusammensetzung, in der Gestaltung der schönen Zweckform aus der technischen Funktion heraus unterrichtet. Die Bemühungen gelten namentlich einer zweckschönen und zweckrichtigen Form der Industrieprodukte von der Kaffeetasse bis zur Wohnsiedlung. Wie der Rektor der Hochschule, der Schweizer Max Bill, mitteilte, sind aus Anlaß der Eröffnung zusammen mit anderen neuzeitlich schaffenden Künstlern die beiden Pioniere der modernen Kunstrichtung Henry van der Velde und Walter Gropius zu „Meistern im Ehrenkollegium der Hochschule für Gestaltung" ernannt worden.

Walter Gropius, der jetzt in Amerika und vorübergehend in Deutschland wirkende schöpferische Architekt und Begründer des

Ulmer Hochschule fortsetzt, sagte in einer begeistert aufgenommenen Rede, daß die Grundidee des Bauhauses in der Hochschule für Gestaltung eine neue deutsche Heimat und ihre organische Weiterentwicklung gefunden habe. Wenn die Hochschule ihrer Idee treu bleibe und die politische Situation stabiler sei als zur Zeit des Bauhauses, dann stehe ihr eine große Ausstrahlung in die Welt bevor. Die Hochschule für Gestaltung solle nicht etwa einem Stil nachjagen, sondern das Experiment im ständigen Suchen nach neuer Wahrheit wagen. Deutschland habe die große kulturelle Chance, das Magische gegenüber dem Logischen wieder zur Geltung zu bringen, das heißt, den Künstler wieder zu legitimieren. Unsere Zeit verfüge über vollkommene Werkzeuge, sei aber durch verworrene Ziele gekennzeichnet. Es sei eine neue Orientierung auf der kulturellen Ebene nötig. Kunst und Technik suchten eine neue Einheit.

Frau Inge Aicher-Scholl, deren Initiative und rastlosen Bemühungen die Entstehung der Hochschule gegen alle Widerstände zu danken ist, beschäftigte sich in freimütiger Kulturkritik mit der Verständnislosigkeit weiter Kreise dem neuen gegenüber. Zu Walter Gropius gewendet, sagte sie: Ich glaube, wir haben Ihre Idee

Fig.4 Heidelberger Tageblatt (1955, October 8)
"The Bauhaus comes back"

Criticism of Bauhaus

As the school settled into the new building in 1955, it was expected that the educational courses would go well; however conflict between rector Bill and the younger lecturers arose because

of Bill's apparent aggressive governance, forcing Bill to resign in 1957 (Spitz, 2002). As educational policy was a controversial matter at the Ulm School, the reason for Bill's resignation was reported as being because of differences in educational ideals. While Bill believed in the predominance of free art, he was unwilling to introduce the natural sciences; however, the younger lecturers thought that it was anachronistic to begin with artistic practice, claiming that design needed to incorporate the latest scientific knowledge. After Bill's resignation, the Ulm teachers developed the "Ulm model" in which more weight was given to science than free art and which had a strong connection with industry (Aicher, 1975). The reformers claimed that they wished to dispense with a strictly Bauhaus model; however these policy changes were an echo of the Meyer era, as the problem of "free art" in design education was again at the center of the conflicts at the Ulm School of Design.

Even though Otl Aicher founded the Ulm School of Design with the assistance of Max Bill, from the beginning, there were differences in their dispositions. Bill had been familiar with free art since his time as a Bauhaus student, from which he had developed geometric art or "concrete art" as the foundation for his design works. In contrast, Aicher had dropped out of the Academy of Fine Arts because he was discontented with sculpting and because he wanted to change society through the development of social products. While Aicher appreciated Bill's contribution to the establishment of the new school, he felt that Bill was an old modernist connected with the old Bauhaus and was still in favor of an artist-oriented school (Aicher, 1991).

Argentine Tomás Maldonado was invited by Bill in 1954 to become one of the early teaching faculty at the Ulm School of Design; however, Maldonado also objected to Bill's artistic orientation. After Bill's resignation in 1957, Maldonado took the helm. His lecture in September, 1958 in Brussels titled "New Developments in Industry and the Training of the Designer" was significant as he critically analyzed prewar modernism as the background to the development of the new policy at the Ulm School of Design. The text of this lecture was officially published in the journal "Ulm 2" (Maldonado, 1958). In the beginning, he declared that some ideas which defined Bauhaus ideology "must now be refused." Certainly, throughout this speech, he recognized the historical importance of Bauhaus; however, he then claimed that the two ideas were no longer compatible for contemporary requirements.

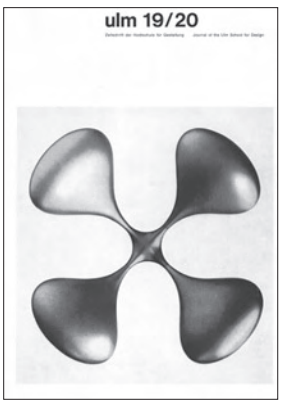
Maldonado noted that the predominance of aesthetics in the Bauhaus movement corresponded to the overestimation of the need for purpose-free art in Bauhaus education. Most problematic he felt was that the artist designer fell into formalism by perusing the "formal purity" of simple geometry and briefly cited Hannes Meyer, who he admired as a functionalist who had been the "only one who saw the danger of the artistic formalism of the Bauhaus, the only one to denounce it publicly and courageously." (p.29) Maldonado then discussed the American concept of "styling" to promote a frequent exchange on the surface to attract consumer attention. Now it's clear that these seemingly opposite design practice poles of Bauhaus rationalism and American industrial design "styling" were essentially the same because of the predominance of aesthetics. Maldonado argued that "the aesthetic factor merely constitutes one factor among others with which the designer can operate, but it is neither the principal nor the predominant one. The productive, constructive, economic factors-perhaps, too, the symbolic factors-also exist. Industrial design is not an art nor is the designer necessarily an artist." (p.31)

Second, Maldonado objected to the overemphasis on manual practice in Bauhaus education; students in the preparatory course should free their creative power, re-educate their senses and regain their lost psycho-biological unity. This idea of "education through doing" had originated in the late 19th century and was still a key consideration at the time. (p.39) "But this educational philosophy is in crisis," because "it is impossible today to act without knowledge" as is also impossible to know without doing. At the end of his speech, Maldonado claimed that there needed to be an active introduction of applicable knowledge under the motto of "scientific operationalism." (p.40)

Ulm Model

Studies at the Ulm School of Design lasted for four years; in the first year, students received basic education and in the following three years, they completed special education in each department. After Bill's withdrawal from the school, the focus began to change. Until 1957, a basic education through artistic practice was common for all students to acquire the basic principles useful for all design fields. However, the basic education from 1958 more emphasized scientific methodology and included mathematical disciplines such as topology and semiotics because of its applicability to understanding the signs in society. From 1961, the basic education was conducted by the individual departments.

These changes in educational policy could be seen in the departmental name changes. The architecture department was first named *Architektur und Stadtbau* (architecture and city construction); however, in 1957, it became *Bauen* (construction) and in 1960, was renamed *Industrialisiertes Bau* (Industrial construction); that is, the more artistic concept "architecture" was replaced by a more industrial concept "construction." This department was engaged in the standardization of materials to industrialize building processes. Similarly, the product design department was originally named *Produktform* (product form) by Max Bill; however, in 1958, the name was changed to *Produktgestaltung* (product design) to break away from the formalism that the artist designer could fall into as this department was focused on designing all kinds of instruments rather than luxury goods *[Fig.5]*.



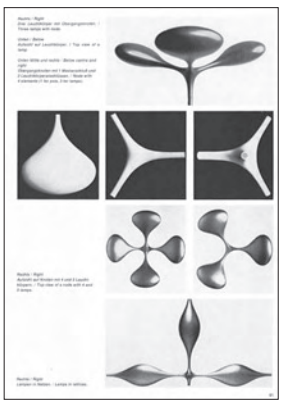


Fig.5 Street Lighting 1966

The department of visual communication was first known as *Visuelle Gestaltung* (visual design); however, in 1956, it became *Visuelle Kommunikation*. This change of name indicated the philosophy that a designer should pay attention not only to the visual product but to the whole communication process. There was no name change, however, for the department of Information, which maintained its original concept as a political-journalistic school and had the original aim of developing non-genre specific mass media writing for newspaper and television (Oswald et al., 2015). The department of Film became independent of visual communication in 1962 when German film production was somewhat behind that of the French. This Film department was one of the first institutes for film education that put greater weight on documentaries for both film and television (Schubert et al, 2012).

The department of product design at the Ulm School of Design had the most students and was a major contributor to elevating the school's reputation through its model product development. The department of visual communication was no less active in meeting the requirements of the information society and the department of information, and also the department of film, was instrumental in shifting interest from the product to information.

The Ulm School of Design was not only concerned with design education but was also involved in company design development. In 1958, specific development work was separated from education department as a Development Group, which was organized as a design office in the school to undertake company projects under the guidance of each lecturer and only accepted projects that matched the school's rationalist policy; for example, group E2 designed Braun's industrial products and group E5 developed Lufthansa's visual signs. Students could work in the Development Group to earn money during vacation time, which was advantageous because of its strong ties with leading companies.

After Modernism

Despite its popularity, Bauhaus was short-lived. The Ulm School of Design also existed for only 15 years. As the school was privately managed by the Scholl Foundation, in the late 1960s, the financial situation become perilous. However, as political independence was crucial to the school, the leading members could not reach an agreement on the merger with University of Stuttgart, which was governed by the State of Baden-Württemberg; consequently, the school finally closed in 1968. The end of the Ulm School of Design corresponded with the end of a modernism that included the *Gestaltung* or rationalist approach to the living world.

In conclusion, it is worth quickly examining *the Hochschule für Gestaltung Karlsruhe*, which was established in 1992, together with Center for Art and Media Karlsruhe. Different from the Ulm school of *Gestaltung*, the Karlsruhe school of *Gestaltung* has never denied its identity as an art school, as its official English name "Karlsruhe University of Arts and Design" shows. However, the notion of art itself has changed, with its autonomy already in crisis. Art is no longer a self-sufficient activity, with most artists today being participants in social practice. Certainly, even though the school retains part of the old name *Hochschule für Gestaltung*, the name for the design departments have grown; for example, *Ausstellungsdesign* (exhibition design), *Kommunikationsdesign* (communication design) and *Produktdesign* (product design).

Design today demands less functionalism than in the modernist era because artistic creativity is widely considered to be an essential part of technological innovation. The modernist concept of *Gestaltung* was actually replaced by the contemporary concept of design.

References

Aicher, O. (1975). die hochschule für gestaltung, neun stufen ihrer entwicklung. *architese*, *15*, 12-16.

Aicher, O. (1991). Bauhaus and Ulm. In H. Lindinger (Ed.), *Ulm design: the morality of objects: Hochschule für Gestaltung Ulm 1953-1968* (pp.124-129). Cambridge, Mass.: MIT Press.

Bill, J. (2008). *Max Bill am Bauhaus*. Bern: Benteli.

Bill, M. (1987). Interview mit Max Bill. In H. Lindinger (Ed.), *Hochschule für Gestaltung Ulm: die Moral der Gegenstände* (pp.65-68). Berlin: Ernst & Sohn.

Hahn, P. (2008). Bill und das Bauhaus. In Kunstmuseum Winterthur und Gewerbemuseum Winterthur (Ed.), *Max Bill: Aspekte seines Werkes* (pp.73-83). Salenstein: Niggli.

Lindinger, H. (Ed.). (1991). *Ulm design: the morality of objects: Hochschule für Gestaltung Ulm 1953-1968* (D. Britt, Trans.). Cambridge, Mass.: MIT Press.

Maldonado, T. (1958). New developments in industry and the training of the designer. *ulm*, *2*, 25-40.

Meyer, H. (1928). bauen. *bauhaus: zeitschrift für gestaltung*, 2. Jg. Nr.4, 12-13.

Müller, L. (Ed.). (2015). *Max Bill's view of things: Die gute Form: an exhibition 1949*. Zürich: Lars Müller.

Oswald, D., Wachsmann, Ch., & Kellner, P. (Eds.). (2015) *Rückblicke – Die Abteilung Information an der hfg ulm*. Lemgo: Dorothea Rohn.

Schubert, P., & Maus, M. (Eds.). (2012). *Rückblicke. Die Abteilung Film – Institut für Filmgestaltung an der hfg ulm 1960-1968*. Lemgo: Dorothea Rohn.

Seckendorff, E. (1989). *Die Hochschule für Gestaltung in Ulm: Gründung 1949-1953 und Ära Max Bill 1953-1957*. Marburg: Jonas.

Spitz, R. (2002). *HfG Ulm: The view behind the foreground: The political history of the Ulm School of Design: 1953-1968* (I. Klavina, Trans.). Stuttgart; London: Edition Axel Menges.

Wachsmann, Ch. (1993). Bauhäusler in Ulm: Grundlehre an der Ulmer HfG zwischen1953 und1955. *HfG-Archiv Ulm Dokumentation*, *4*, 4-27.

Author Biography

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Keisuke Takayasu is an associate professor of aesthetics at Osaka University in Japan. He studied at Osaka University. His book *Aesthetics of Modern Design* (Japanese) deals with the terminological issues of design history. His research interests cover modern design history, focusing on the dialectic relationship between the traditional and the modern in the aesthetic evaluation of design.

Transnational Connections for Architectural Design between Germany and Japan on the Eve of World War II

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Abstract

Due to the image of efficiency and strength of modern Western architecture during the 20s and 30s, several Japanese architects adopted European rationalist architecture as a solution for their buildings, becoming the main promoters of what is known as the International Style in Japan. To comprehend modern architecture, they took several trips to Europe—mainly to German speaking countries—where they made connections with important figures like W. Gropious and L. Hilberseimer. Thus, their buildings are the result of European influences on Japanese architecture during the interwar period.

This paper will analyse the cultural, social and political conditions both in Germany and Japan in order to understand the underlying principles that made it possible for Japanese architects to approach new modernist theories and designs proposed in the West. The paper has the further aim of developing how this approach led to the introduction of modernism in Japan before the war ended, with the exchange of intellectual ideas between the two countries.

Keywords: Bauhaus, CIAM, Teishinshō, Transnational, Interwar

Introduction

Japanese architecture was under debate between a national style—instigated by the Emperor and military powers—and a growing wave to revive and update traditional aesthetics.

However, due to the influence of the intellectual art circles in Germany, a new modern idea of architectural design also emerged in Japan. Bunriha Kenchiku Kai (Secessionist Architects Group) tried to show the public an expressionist type of architectural design, following in the footsteps of Bruno Taut and his colleagues in Berlin during the late 10s. The members of the association were from upper class families, so they could travel to Germany and see Bauhaus for themselves. Some of them even had the chance to interact directly with W. Gropius.

In addition to intellectual principles, there was a natural phenomenon that changed the way architecture was taught and designed in Japan. The Great Kantō Earthquake completely transformed the scene, as new structures capable of withstanding fire and seismic movements were needed. The institutions in charge of rebuilding Tokyo demanded new paradigms that could cover not only new social needs, but introduce new construction materials as well. The sources for these new architectonic models were taken from European cities and, thus, new post offices, hospitals and infrastructures began to grow in Japan, replicating the rationalist styles developed by the European masters.

Breeding grounds for a revolution in Japanese architecture in early Showa

Before any architectural revolution starts, there are factors already in motion that are leading toward the desired reconstruction. Political, cultural and social agents are inevitably related. As a consequence, when one of these factors is altered, the others also begin to evolve, in a process of feeding one another until the reigning models collapse and a new city model emerges. The pursuit and domestication of rationalism[1)] comprise the main theme of Japanese architecture during the late twenties and thirties. It is worth pointing out that this situation was absolutely the same as what was happening in other industrialised countries.

Nationalism and Japanese taste

In the beginning of the 20th century, the artistic revival of traditional tastes—or modernisation of *sukiya*—became the central point in university circles in response to the Westernised education taught by these institutions during the second half of the 19th century. Ernest Fellenosa, an American historian and supporter of Japanese national artistic heritage, was crucial to this trend, as he was appointed as the new director of the Tokyo Fine Arts Academy and Imperial Museum in 1888[2)]. Right after a trip to Europe and the USA to learn from other educational methods, upon his return Fellenosa found that Japanese art had become too modern for his

1) ———— Rationalism as referring to the architectural ideas and forms proposed in Central Europe, mainly developed during the Bauhaus period by its director Walter Gropius.

2) ———— The Editors of Encyclopaedia Britannica. *Ernest F. Fenollosa. American Orientalist and Art Critic*. Retrieved from https://global.britannica.com/biography/Ernest-F-Fenollosa.

tastes. Hand in hand with Kakuzo Okakura[3], they developed a new education programme that would be the foundation for art education at Tokyo Imperial University for the first 20-30 years of the 20th century[4].

During this time period, a new emperor took control in 1914—the Taisho Period from 1914 to 1926 named after said Emperor Taisho—who tried to develop the Imperial Crown style, or *teikan yoshiki*, to reflect increased military power, in an exercise similar to what would be seen in Germany and Italy before WWII. The cultural and military image of the Empire was one of *teikan yoshiki*; not only within Japanese borders, but also in the increasing number of conquered territories[5]. Frank Lloyd Wright's Imperial Hotel, completed days before the earthquake, influenced the style so greatly that many elements used by the American architect were implemented in imperial constructions. The culmination of this style was the erection of the National Diet Building in 1936, and represented the final consolidation of Japan's military government. At that time, it became the country's second largest building and sessions of the House of Representatives and the House of Councillors are still held there today.

Great Kantō Earthquake

On 1 September 1923, the Great Kantō Earthquake devastated Tokyo, and a widespread area of at least 60 km around the Japanese capital. The magnitude of destruction was almost beyond imagining. In Yokohama, 90 percent of all homes were damaged or destroyed, while 350,000 homes met the same fate in Tokyo, leaving 60 percent of the city's population homeless[6]. In 1924, the Tokyo Metropolitan Government prepared a plan for the reconstruction of the city, providing an impetus to establish new building laws that would introduce new construction materials capable of resisting fire and seismic movements. The fact that the recently opened Imperial Hotel survived the earthquake relatively unscathed was a contributing factor in the institutions in charge of city reconstruction—like the newly created Dojunkai Housing Association of the Ministry of Communications—deciding to focus on building designs from the West that made use of new materials like reinforced concrete[7].

Shinkenchiku-sha and the first architecture periodicals

The oldest architectural journal *Kenchiku-zasshi* started to write about Western architecture in 1913. However, it was not until the mid-20s when architecture journals achieved notable

3)——Okakura is a renowned figure outside Japan thanks to his publication "The Book of Tea" in 1906, a long essay linking the role of tea to the aesthetic and cultural aspects of Japanese life. His book is also famous among architects, just like F. L. Wright's works were deeply influenced by it.

4)——Stewart, D. B. (2002) *Unbuilt Manchukuo: A Lost "Opportunity"*. The Making of Modern Japanese Architecture. From the Founders to Shinohara and Isozaki. Tokyo: Kadansha International, 111-113.

5)——Japan occupied part of China–Manchuria in 1930–and by that time, Seoul, now South Korea, was part of Japan.

6)——Denawa, M (2005) *Behind the Accounts of the Great Kanto Earthquake of 1923*. The Great Kanto Earthquake 1923. Materials from the Dana and Vera Reynolds Collection. Rhode Island: Brown University Library Center for Digital Scholarship. Retrieved from http://library.brown.edu/cds/kanto/denewa.html.

7)——Stewart, D. B (2002) *Group Housing and Other Social Aspects of Showa Architecture*. The Making of a Modern Japanese Architecture. From the Founders to Shinohara and Isozaki. Tokyo: Kadansha International, 146-151.

Fig.1 Hans Meyer gta Archive ETH Zurich. Left, *Shinkenchiku-Shin Kentiku,* vol.3 no.8 August 1927 / Right, Shinkenchiku-Shin Kentiku, vol. 4 no. 12 December 1928

relevance, with *Shinkenchiku*, or New Architecture, becoming the most important source for architects who wanted to analyse European designs.

On the one hand, these architectural periodicals encouraged young Japanese architects to come to Europe and learn directly from the source. Hans Meyer or Walter Gropius, two of the three directors that ran the Bauhaus until its dissolution in 1933, made their first appearance in this periodical in 1927 and 1928, nurturing the dream of an illuminating trip to Europe *[Fig.1]*.

On the other, architecture periodicals also helped to introduce European avant-gardes ideals to the upper classes. Thanks to these journals, the richer were willing to embrace new architectonic styles for their private houses and factories, similar to what they saw in the printed pages of *Shinkenchiku* and *Kenchiku jidai,* in a classic example of an iconoclastic desire for newness.

Exchanges on the old continent to confront the established orders

The apparent political similitudes between Germany and Japan, with both nations' characters becoming increasingly defined by their military power, attracted the eyes of young Japanese architects. Of course, not everyone preferred the German vision of architecture and, like Kunio Maekawa[8] and Junzō Sakakura[9], preferred the French style. They both worked for Le Corbusier

8)——Kunio Maekawa came to France between 1928 and 1930 and was the very first Japanese to work with the master. While working in his atelier, he was able to attend the CIAM congress and he also had the opportunity to work with and befriend Charlotte Perriand, Jose Luis Sert, Albert Frey and Alfred Roth, whom he wrote to whenever he could. He also met Richard Neutra during Neutra's visit to Japan. On returning to Japan, he worked for Antonin Raymond from 1930 to 1935. He was able to manage this job with his own works, mainly competitions that would later draw the attention of young architects like Kenzo Tange, who worked for Maekawa in the late 30s.

9)——Junzo Sakakura started working at Le Corbusier's atelier in 1931 after Maekawa's departure, replacing him at the office for almost seven years, until 1936. As Sakakura became more trusted in the office, he rose first to job architect and then to chief of the studio. Students would come to him for advice when Corbusier was not about. Similar to Maekawa, he had the opportunity to relate to Charlotte Perriand, Josep Luis Sert and other European architects working in the office. Right after he had returned to Japan, Sakakura received the commission for the Japanese Pavilion for the 1937 Paris Expo. He had to return to Paris again, although this time he decided to stay away from Le Corbusier's office.

in his atelier in Paris, as Jonathan M. Reynolds points out in his research on Maekawa[10].

In addition, the Bauhaus School was one of the leading art institutions in Europe, if not the very first, which obviously drew the attention of young architects not only in Japan, but all over the world.

German avant-gardes: mainstream societies

The concept of avant-garde refers primarily to artists, writers, composers and thinkers whose work opposes mainstream cultural values and often has a trenchant social or political edge. Many writers, critics and theorists made assertions about vanguard culture during the formative years of modernism, which led to the rise of transcendental architecture figures including Walter Gropius, Ludwig Hilberseimer and Bruno Taut. A similar situation occurred in the French speaking world with Le Corbusier at the helm. However, the difference between how both cultures conceived of architecture was palpable, where the German faction was more rationalist and focused on Dutch constructivist models, while the inspiration of the French side was drawn from Paris related avant-gardes.

Thanks to the ambition of Gropius and his colleagues, who wanted to redefine the understanding of art design, the Bauhaus was founded in Weimar in 1919. The idea of creating a 'total work of art' or *Gesamtkunstwerk*, in which all arts—including architecture—would eventually be brought together was the main focus of the school. The Bauhaus became one of the most influential currents in design and architectural education.

Bunriha Kenchiku Kai: replicating the Bauhaus

The Bunriha Kenchiku Kai (Secessionist Architecture Group) was founded by Kikuji Ishimoto, Mamoru Yamada and Sutemi Horiguchi, among others. The three aforementioned architects were among the few who had the opportunity to come to Europe after finishing their architecture studies. According to Professor Ken Tadashi Oshima, Ishimoto was the first Japanese architect to study with Gropius in 1922; Horiguchi came to Europe in 1924 for a two year period, visiting leading German architects and even departing to Greece, probably following the path marked by Le Corbusier's trip; and Yamada travelled to Germany in the late 20s to meet Gropius and attend CIAM II in Frankfurt[11]. During their trips, all of them were able to make connections with pre-eminent German architects. Even though WWII lessened their bonds, contacts between the Japanese architects and the masters were continuous in the beginnings of the 30s *[Fig.2]*.

Upon returning, after their lessons in Weimar, Dessau and Berlin, the group tried to appropriate the lessons of the Bauhaus and replicate them in Japan. To do so, the group designed seven exhibitions between 1920 and 1928, which were held in several Tokyo department stores. Close to Expressionism in their beginnings, looking for a neo-national architecture expression, the group turned to a more rational or International Style of designs, in parallel to the path fol-

10) ———— Reynolds, J. M. (2001) *Maekawa kunio and the Emergence of Japanese Modernist Architecture*. Berkeley: University of California Press.

11) ———— Oshima, K. (2009) *International Architecture in Interwar Japan. Constructing Kokusai Kenchiku*. Seattle: University of Washington Press.

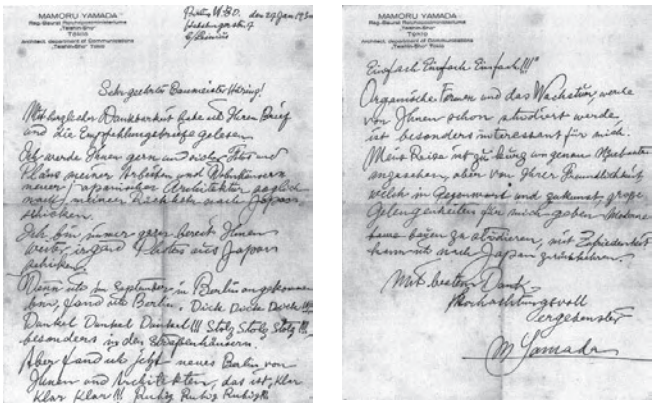

Fig.2 Hugo Häring Archive Akademie der Kunste. Mamoru Yamada to Hugo Häring, 27 January 1930

lowed by Der Ring[12], the architectural collective at which Bruno Taut, Hilberseimer and Gropius developed their architecture theories for their later buildings[13].

The main difference between the Japanese Secessionist Group and the European masters was the Japanese group's lack of concern about economics or social conditions, even though they both shared an opposition to prevailing artistic tendencies. Coming from relatively wealthy families, which let them attend Tokyo Imperial University, Bunriha Kenchiku Kai distanced itself from everything not directly concerned with the spatial or merely architecture discourse. However, the establishment of Bunriha greatly influenced the development of Modernism in Japan. By exploring new developments in European architecture and promoting these ideas within Japan's architectural community, the group became a valuable model and was used as a paradigm by other social institutions whose aim was to promote modernist architecture in Tokyo[14].

Ministry of Communications: vehicle for transnational models

Apart from the modern path privately developed by the aforesaid architects, some institutions in charge of rebuilding Tokyo, such as the Teishinshō (Ministry of Communications), which was founded in 1919, sought to pursue rationality and progressiveness in its works for the post, telegram and telephone services. Teishinshō-related buildings were imagined to be the vehicles for a new architecture. It was here where the dream of a modern Japanese architecture was most

12)————Der Ring was an architectural collective founded in 1926 in Berlin, initially formed by ten members: Bartning, Behrendt, Gropius, Häring, Hilberseimer, Mendelshon, Mies van der Rohe, Poelzig, Max and Bruno Taut. The group sought a new architectural culture, in opposition to the prevailing *Bierdermeier* or Romantic architectural concept demanded by the well-off bourgeois society. Retrieved from:
Sombricio, C. (2004) *L'habitation Minimum*. In Madrid, Vivienda y Urbanismo: 1900-1960. Madrid: Akal, 191.

13)————Carreri, E. (1997) *Ishimoto Kikuji e l'aventura del Giappone moderno*. ArQ-Architettura Quaderni issue 16. Milan: Mondadori Electa, 20-49.

14)————Lepik, A & Rosa, I. (2006) *Architecture: The Berlin-Tokyo connection from the late 19th century until the late 1920s*. Tokyo – Berlin / Berlin – Tokyo Exhibition Catalogue. Tokyo: Mori Art Museum, 118-119.

completely realised by combining functionalism and post and beam construction. These designs were taken from the German industry replicated in Japan in the search for a new Tokyo city[15].

Trying to achieve modern architecture for their infrastructures, the institution financed the trips of their chief architects, like Tetsurō Yoshida, to research Western facilities[16]. 16 As Hyon-Sob Kim explains, Yoshida seemed to be more interested in surveying the stream of modern architecture in Europe than just analysing broadcasting facilities[17]. During the almost one-year-long stay in Europe, he met a number of the foremost architects in each country he visited, where Berlin was his base. It was a chance for him not only to learn from European masters but also to inform them about traditional Japanese architecture. Ludwig Hilberseimer and Hans Scharoun were interested in learning about the tectonic properties of Japanese architecture, and due to their many talks on this topic, they became friends with Yoshida, a friendship that lasted until Yoshida's death in 1956 from multiple brain tumours *[Fig.3]*. The financial efforts of the Ministry to send its architects to Europe translated into a series of buildings that could be called the most modern in Japan. Airports, electrical facilities and post offices echoed rational and modern design. Tokyo's Central Post Office was designed by Yoshida in 1931, and during Taut's visit to Japan in 1936, he called it 'the most modern building in the world'[18]. Another example is Yamada's Electrical Laboratory, built in 1932, which was the only Japanese building to appear in MoMA's "International Architecture" catalogue[19]in 1932. They attest to Teishinshō's

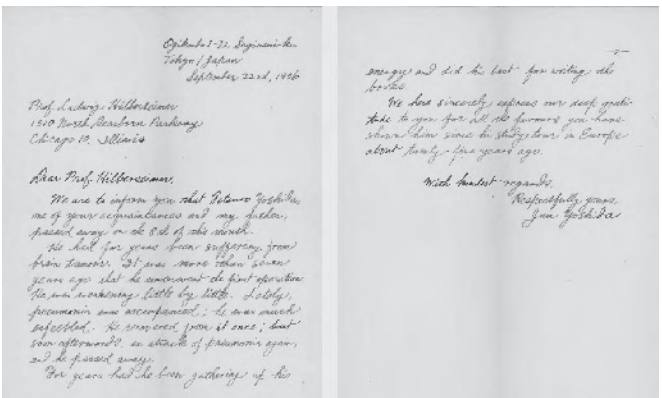

Fig.3 Ludwig Hilberseimer Archive, the Art Institute of Chicago. Jun Yoshida to Ludwig Hilberseimer, 22 September 1956

15) Hyon-Sob, K (2008). *Tetsuro Yoshida (1894-1956) and architectural interchange between East and West.* Architectural Research Quarterly v. 12 issue 1. Cambridge: online edition, 43-57.

16) Hyon-Sob, K. (2009) *Cross-Current Contribution: A Study on East Asian Influence on Modern Architecture in Europe*. Architectural Research v. 11 issue 2. London: online edition, 9-18.

17) Ibid.

18) Taut, B. (1936) *Fundamentals of Japanese Architecture*. Tokyo: Kokusai Bunka Shinkoai (The Society for International Cultural Relations), 33.

19) Term coined by Philip Johnson and Henry-Russell Hitchcock in the 1932 MoMA exhibition "Modern Architecture: International Exhibition".

commitment to modern architecture. These buildings, and others financed by this ministry in the 30s, are a culmination and a demonstration of the influence of modern German architecture in Japan in the interwar period.

CIAM IV: a missed opportunity

As we have seen, the personal connections were very strong between the young Japanese architects and the leading European architects in the late 20s.

In 1928, the Congrès Internationaux d'Architecture Modern (CIAM) or International Congresses of Modern Architecture was founded. Its aim was to spread the principles of the Modern movement, focusing on all the main domains of architecture. Maekawa, due to the connections he made while working at Le Corbusier's atelier, was named as a member of the Japanese delegation of the CIAM even though the group no longer existed by then[20]. In 1933, Ishimoto, who still maintained contact with Gropius, was nominated as the first delegate. However, neither architect ever established strong connections with the CIAM delegates, Swiss Sigfried Giedion or Dutch Cornelis Van Eesteren.

Despite the latter's attempts to contact the Japanese delegation through Yoshida[21], his efforts were fruitless since the young Japanese architect was still in Berlin in 1932. No response came from Tokyo delegates before the beginning of CIAM 4 in October 1933, whose main theme was 'the functional city'. Several cities from around the world were mapped and analysed comparatively. Unfortunately, Tokyo was not one of them.

Japan's participation at the congress would have entailed the country's definitive embrace of the most critical European modernism, so that not only the architectonic forms would had been replicated, but the social concepts behind these new paradigms would also have been adopted. Unfortunately, that is not how history unfolded, and Japan's definitive entry on the scene as an architecturally modern country would have to wait until WWII was over and CIAM 8 in 1951[22].

Author Biography

Enrique Rojo

Enrique Rojo studied architecture at the University of Navarra ETSAUN in Spain, graduating in 2011. During his student period, he was able to collaborate with his third year studio professors at *alcolea+tarrago*, working for them in 2010-2011. Subsequently, he moved to the United Kingdom where he obtained his Postgraduate Master's at the Sheffield School of Architecture SSoA after the submission and approval of his dissertation *Roof as Duality of Meaning* in 2012. Thanks to a Leonardo Scholarship he moved to Switzerland, where he worked for almost 3 years at the *Raumbureau* office from 2013-2015.

20) ———— Mauerer, B; Perez, M; Weiss, D. & 3 more (2014) *The Unrealized Analyses*. Atlas of the Functional City: CIAM IV and Comparative Urban Analysis. Zurich: gta Verlag, 431.

21) ———— Giedion. S (1932) *Letter to Yoshida 03.03.1932*. gta Zurich: CIAM / S. Giedion Archive

22) ———— Mauerer, B; Perez, M; Weiss, D. & 3 more (2014) *The Unrealized Analyses*. Atlas of the Functional City: CIAM IV and Comparative Urban Analysis. Zurich: gta Verlag, 432.

He currently combines his professional career as cofounder of *atelier rojo vergara* with academic research, being a PhD candidate at the aforementioned ETSAUN with his thesis *There and back of modern ideals: European references in Japanese architecture 1923-39*. To develop the project, he completed a research stay at the Institute for the History and Theory of Architecture gta ETH Zurich under the supervision of the institution's director, Professor Vittorio Magnano Lampugnani.

Hannes Meyer's Scientific Worldview and Architectural Education at the Bauhaus (1927-1930)

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Abstract

Although the Bauhaus's second director, Hannes Meyer (1889-1954), as well as some of the graduates whom he taught, have been much discussed in previous literature, little is known about the architectural education that Meyer shaped during his tenure. He incorporated key concepts from biology, psychology, and sociology, and invited specialists from a wide variety of fields. The Bauhaus under Meyer was committed to what is considered a "scientific worldview," and this study focuses on how Meyer incorporated this into his theory of architectural education. This study reveals the following points. First, Meyer and his students used sociology to design analytic architectural diagrams and spatial standardizations. Second, they used psychology to design spaces that enabled people to recognize a symbolized community, to grasp a social organization, and to help them relax their mind. Third, Meyer and his students used human biology to decide which direction buildings should face and how large or small that rooms and windows should be. Finally, Meyer's unified scientific worldview shared a similar theoretical structure to the "unity of science" movement, established by the founding members of the Vienna Circle, at a conceptual level.

Keywords: Bauhaus, Architectural Education, Sociology, Psychology, Biology, Unity of Science

Introduction

In 1920s Germany, modernist architects began to incorporate biology, sociology, and psychology into their architectural theory based on the concept of "function" (Gropius, 1929; May, 1929). The Bauhaus' second director, Hannes Meyer, was one of them. Meyer redefined his functionalism theory by adding sociology, psychology, and biology, and taught architectural theory at the Bauhaus that attached importance to scientific analyses (Winkler, 2003). The special lecturers whom Meyer frequently invited to the Bauhaus accelerated this tendency (Winkler, 1989). On the relationship between sciences and architectural spaces, many researchers highlight the psychological, social, and biological factors in the design of Meyer's ADGB Trade Union School in Bernau, Germany (Tomita, 2008). Moreover, science historians such as Peter Galison clarified that the Bauhaus had a close relationship to the "the unity of science" movement in that the latter was a thread within the philosophy of logical positivism that organized all sciences as a consistent system based on physics (Galison, 1990; Blume, 1993; Dahms, 2004). However, it has not been discussed how Meyer and his students translated the results of scientific analyses to architectural spaces. Therefore, this study reveals Meyer's scientific worldview and how he incorporated it into the theory of architectural education that he espoused while at the Bauhaus through the analyses of the design method in Meyer's representative work *[Fig.1]* as well as a project by Meyer's students Philip Tolziner and Tibor Weiner *[Fig.2]*. In each section below, sociology, psychology, biology, and the unity of science in these two representative works are discussed on their theoretical background. Of particular interest are published

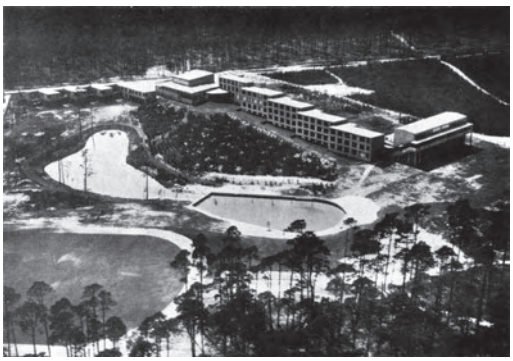

Fig.1 ADGB Trade Union School (1928-1930) by Hannes Meyer ("Zentralblatt der Bauverwaltung". 51. Jahrgang 1931, Nummer 14)

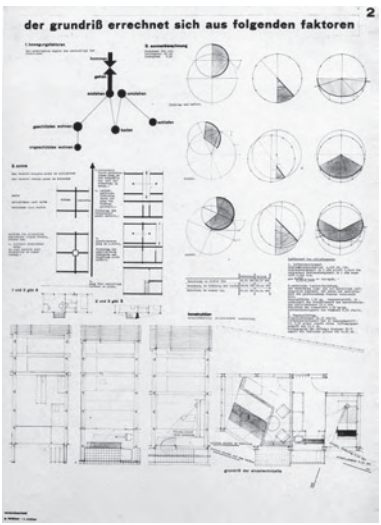

Fig.2 Communal housing for factory workers of the socialist state (1930) by Philip Tolziner and Tibor Weiner, Sheet no. 2. (Bauhaus Universität Weimar)

and unpublished materials: the drawings and documents produced by Meyer and his students held in the Deutsches Architekturmuseum and Bauhaus Universität Weimar.

The "Small Circle System"

Sociology in Meyer's Scientific Worldview

Meyer used sociology to design social organizations within architecture. In his representative work, the ADGB Trade Union School (1928-1930), a training school for the members of ADGB (der Allgemeine Deutsche Gewerkschaftsbund) in the pine wood forest of Bernau, near Berlin, Germany, Meyer designed the social organization of attendees by using a "small circle system" expressed in architectural form. In this project, the fundamental units (i.e., small circles) comprised five double rooms on one floor, accommodating 10 trainees. These were then stacked vertically to create a three-story building. Ultimately, four of these three-story buildings created the "big circle" that accommodated 120 trainees (Schnaidt, 1965). In short, in this project, Meyer designed a social organization by making groups of the same type of rooms.

To understand the relationship between social organization and architectural spaces, Meyer's 1933 essay "How I work" (*Wie ich arbeite*) is indispensable. Within, Meyer explained his analyses and design method in the following four stages:

Stage 1: Diagrammatic representation of the building program, in which spaces of a similar kind are grouped together and the analytic features indicated (usually on a scale of 1:500 or 1:1000)

Stage 2: Standardization of all similar spaces and establishing standard "types" for all vitally important individual spaces (on a scale of 1:100 or 1:200). During this stage, the results of the overall analyses are collated.

Stage 3: Diagrammatic planning of the entire building program on a uniform scale (usually 1:500) showing organization and the most appropriate grouping of spaces as well as the connections between them.

Stage 4: Strict observation of the building organization plan, working from the aforementioned draft, considering all economic, technical, and architectural factors. The draft plan is drawn on the smallest possible scale and in a tersely standardized form.

This description can be considered a method with which to translate sociological analyses into architectural space. As such, the meaning of Meyer's small circle system can be examined through the ADGB school.

Following Stage 1, where similar kinds of spaces are grouped together, Meyer adopted this idea in the design of the ADGB school to structure the trainees' social organization by using the small circle system. Adhering to Stage 2, Meyer designed the standardized fundamental units as being small circles, or a double room, which lays down a standard type for all vitally important individual spaces. In Stage 3, Meyer determined the diagrammatic plan of the entire building program, which has a characteristic staggered form.

In the design process of this building, the small circle system was adopted consistently, and the fundamental structure was not changed, even over the course of three different plans: the competition plan (drawn April 1928), architectural application plan (drawn August 1928),

and executed plan (drawn May 1930) (Tomita, 2008).

Sociology in Meyer's Architectural Education

Meyer considered that sociology was an important consideration in the field of architecture, and thus introduced sociological analyses in his architectural instruction at the Bauhaus from the beginning of his tenure. His method of teaching is regarded as an early example of introducing sociological analysis into architectural education, alongside that of Bruno Taut's at Technische Hochschule Berlin (Winkler, 2003). Otto Neurath (1882-1945) played a key role in the introduction of sociology to the Bauhaus (Schäfers, 2003). Neurath was a social scientist and scientific philosopher in Vienna, Austria, and his particular discipline did not discriminate between natural science and social science.

In some of students' architectural works, many sociological analyses that are clearly fruits of Meyer's architectural education are identifiable. Students were often tasked with drawing analytical diagrams and timetables of life (Tomita, 2016). One of the most significant student works during Meyer's era was a communal housing for factory workers of the socialist state (1930) by Philip Tolziner and Tibor Weiner:

> ...it was tried to draw easy ascertainable basis and thought, which was the beginning point of our project: the new social order, the relationship among human beings and to nature, the condition of inhabitants' daily routine.
>
> (Tolziner, 1989)

Psychological Effect in Architectural Space

Psychology in Meyer's Scientific Worldview

As mentioned in the previous section, Meyer created the entire social organization of the ADGB Trade Union School based on sociological analyses. In addition, based on psychological analyses, he designed a community building and the glazed corridors of the school as important spaces for the school community.

First, let us discuss the community building: it contains a main entrance, auditorium, and dining hall, and symbolizes the unity of the school community. At main entrance are three oil-fired chimneys as the heating system. They demonstrate practical functional form, while simultaneously symbolizing the labor movement: cooperative, trade union, and party (Nerdinger, 1989). The auditorium is square in shape. According to Meyer (1928), "Next to the (acoustic disadvantageous) circle, this square is the strongest possible expression of the unity, the social unity of a community."

Second, we shall discuss the grazed corridor: it is the main path of circulation in the school. It connects the community building, dormitory building, and school building. Meyer designed the glass corridor by considering orientation and relaxation in mind (Tomita, 2008). According to his explanation of the competition plan (April 1928), Meyer explained a psychological effect wherein people subconsciously acknowledge social organization through the impression caused by the space composition (Meyer, 1928b); similarly, in his explanation of the execution

plan (May 1930), Meyer also explained a psychological effect that causes people to be in good humor upon viewing the landscape:

> Public rooms providing facilities for exercise and recreation were designed in a variety of ways as part of the general plan to organize the psychological background of the 120 students. During rainy periods lasting several days, good humor was preserved by ensuring there were plenty of things for the students to do and that their view of nature outside continually changed. It was with this in mind that the main glazed corridor was designed on an incline with re-entrant corners and glass walls affording a view of the school as a whole while other windows brought the beholder into contact with nothing but forest and nature.
>
> (Meyer, 1930)

To understand the background of these intentional psychological effects in the architectural space, Meyer's memorandum for a lecture at Wien (Meyer, 1929a), at the invitation of the Vienna Circle members, is helpful. Meyer prepared a nine-page memorandum for this lecture dated 22 April 1929 and stated that he attached importance to psychological matters in architecture.

He initially described architecture as a life process involving three types of organization: technical–mechanical, economical, and sociological. He also highlighted the works of following architects: Ernst May, Walter Gropius, Martin Wagner, Leberecht Migge, Fugo Häring, Otto Haesler, and Martin Mächler. Meyer emphasized that architecture is not only technical/economical/sociological, but also a psychological organization, in an attempt to differentiate his definition from other architects'. This definition can be seen in Meyer's text *Building* (1928).

May and Gropius began to consider psychological aspects during the second Congrès internationaux d'architecture moderne (CIAM) conference in October 1929; however, Meyer's attention to psychology was earlier than other contemporary architects, and Meyer was conscious of that.

Psychology in Meyer's Architectural Education

Meyer invited psychologists Hanns Prinzhorn (1886-1933) and Karlfried Graf von Dürckheim (1897-1989) to the Bauhaus as special lecturers during his tenure. Prinzhorn's lecture themes were "body-mind-unity" (*leib-seele-einheit*; also the title of his book) and "foundation of new personality psychology" (*grundlagen der neuen persönlichkeitspsychologie*). Dürckheim's lecture was mainly about Gestalt psychology, as revealed in the notes of Howard Dearstyne, a Bauhaus student (Dearstyne, 1930/31).

According to Winkler (1989): "Meyer evaluated cognitive function of modern science very highly, therefore psychology took a special palace in his thoughts." This psychological effect is evident in the architectural spaces designed by his students.

In Tolziner and Weiner's communal housing for factory workers of the socialist state, the architectural form's minimum unit of social organization (a single dwelling unit) can be recognized easily, because the convex corners appear in both the corridor side and veranda side and are inclined on a North and South axis with gaps (Figure 2. Tomita, 2016).

Biological Analysis and the Bauhaus

Biology in Meyer's Scientific Worldview

As mentioned in the previous two sections, Meyer's designs focused on social organization and community space within the ADGB Trade Union School, and these were based on sociological and psychological analyses. However, two questions remain unanswered: how did the architect arrange the school buildings on the unique landscape, and how did he designe the windows as interfaces between humans and the landscape? Meyer used humans' biological needs to determine the direction that his buildings would face—as well as the size of rooms and windows—using calculations of sun position and lighting as well as ventilation. Specifically, Meyer designed the ADGB Trade Union School considering these biological aspects:

> The facade of the living space is not turned to the sun through coincidence and peradventure; rather the dwelling's orientation is calculated according to a biological methodology that strives to achieve the greatest possible solar illumination for all living quarters in this northern German clime. No bed without sun!
> (Meyer, undated)

To understand more accurately Meyer's intentional use of biology in architecture, consider also the influence from Konrad von Meyenburg (1870-1952), who was a business owner and inventor of agricultural machinery. Meyer's biological concept was influenced by Meyenburg's work in the 1920s (Winkler, 1989), primarily an essay titled "Culture of Planter, Human beings" in *Bauhaus* magazine (Meyenburg, 1927). Meyer then invited Meyenburg to be a special lecturer at the Bauhaus in 1929, one year after Meyer wrote a text titled *Building* (1928; the original used *building* [lowercase] throughout the text), using the term "biological" as follows:

> building is a biological process. building is not an aesthetic process. in its basic design the new dwelling house becomes not only a piece of machinery for living in but also a biological apparatus serving the needs of body and mind.
> (Meyer, 1928)

Thus, Meyer is noted the psychological and ergonomic aspects of human biology; at first, this biology concerned physical aspects, such as sunlight allocation and ergonomics in architectural design. This kind of biological consideration was quite common in architecture at the end of the 1920s and was used in the design of Meyer's ADGB school primarily through calculations of sun positions and sunlit areas. Biology concerned with psychological aspects, however, was only considered in a broad sense, though it can be interpreted that Meyer's biology has two meanings: biology in a narrow/physical sense and in a broad/psychological sense. The latter was characteristic of Meyer during this period, using the words "psychology" and "biology" for a piece in *Bauhaus Dessau*.

> It was our hope to give added depth and richness to architecture by an analysis of the social situation and a careful study of all biological factors, special attention being paid

> to the psychological factors involved in the way people organized their lives.
>
> (Meyer, 1940)

In *Bauhaus Dessau* there are two overarching themes: social situations and biological factors. As such, psychological factors were subordinate yet notable points contained within these two concepts; therefore, it is understood that biology was a major premise of Meyer's architecture and that psychology was especially valued among the subordinate concepts.

Bauhaus Students

Biological analyses were also a key feature in Meyer's architectural education at Bauhaus, writing the following in *Bauhaus and Society* (1929b): "Its [new architectural theory of Bauhaus] creative media deliberately employed the results of biological research."

To reflect Meyer's architectural education, Bauhaus students also used biology to determine the direction that buildings would face as well as the size of rooms and windows, in addition to considering sun positions and ventilation. Hans Wittwer (1894-1952), a business partner of Meyer from 1926-1929, taught calculations of sun positions and ventilation in his architectural theory course for two years from its establishment in 1927 (Winkler, 2003). In fact, Meyer and Wittwer's drawings of the ADGB school competition project (1928) used calculations on the position of the sun and sunlit areas in exactly the same way as Bauhaus students had done in their drawings. Similarly, Tolziner and Weiner's communal housing for the factory workers in 1930 was based on the method taught in Wittwer's class (e.g., calculating the sun's position on summer and winter solstice days as well as spring and autumn equinox days in Saumur, France) (Tomita, 2016). Tolziner (1989) mentions, "We used the same planning technique that we learned in the architectural theory course and applied it in the architectural studio course, but we attempted a new solution method in the plans."

Meyer's Scientific Worldview

Meyer's Scientific Worldview and the Unity of Science

As mentioned, Meyer designed the ADGB Trade Union School on the basis of sociological, psychological, and biological analyses. Since Meyer's individual scientific approach unified these themes into architecture, this is considered to be a unification theory among these disciplines. Meyer defined architecture as an aggregation of sciences, and architects as specialists that are tasked with organizing the sciences:

> building is only organization: social, technical, economic, psychological organization [...] the new house is a prefabricated unit for site assembly and, as such, an industrial product and a work of specialists: economists, statisticians, hygienists, climatologists, industrial engineers, standards experts, heat engineers ... and the architect? ... he was an artist and has become a specialist in organization!
>
> (Meyer, 1928a)

To understand the background of Meyer's intentional definition of architecture as organization, the reference to "Logical Foundations of the Unity of Science" (1938) written by Rudolf Car-

nap, a member of the Vienna Circle, should be considered. The "unity of science" movement by the Vienna Circle and the Bauhaus mutually affected one another (Galison, 1990); for example, in 1929, the special lectures by members Otto Neurath, Herbert Feigl, and Rudolf Carnap were held at the Bauhaus; Meyer gave a lecture at Wien at the invitation of the Vienna Circle members in 1929; and Carnap, in his "The Main Branches of Science" within "Logical Foundations of the Unity of Science," ordered the organization of sciences as shown in Figure 3 (top).

Initially, Carnap (1938) distinguished formal science and empirical science: "Formal science consists of the analytic statements established by logic and mathematics; empirical science consists of the synthetic statements established in the different fields of factual knowledge." Later, however, he divided empirical science into "physics" (a common name for the nonbiological field of science) and "biology," where physics included chemistry, mineralogy, astronomy, geology (i.e., historical), and meteorology, biology included physical biology as well as psychology and social science. Carnap stated the following about psychology and social science:

> [They deal] with the behavior of individual organisms and groups of organisms within their environment, with the dispositions to such behavior, and with certain features of the environment which are characteristic of and relevant to the behavior, e.g., objects observed and work done by organisms.
>
> (Carnap, 1938)

These concepts are similar to Meyer's sociological and psychological characteristics used in his architectural design mentioned in previous sections of this study; therefore, we reconstructed Meyer's scientific worldview based on the framework of sciences in "Logical Foundations of the Unity of Science" (Figure 3, bottom). This reconstructed organization of Meyer's scientific worldview is also evident when comparing the two versions of his paper, "The New World" (*Die neue Welt*), which was issued first in 1926 and then again in 1928 (Poerschke, 2014). Important differences between these two publications are shown by the underlined text in the below passages:

> Building is a technical process. Building is not an aesthetic process. The utilitarian functions of houses sometimes contradict aesthetic constructions. In its basic and essential design the house becomes a piece of machinery for living in... Thinking of building in functional terms in all aspects leads logically to pure construction.
>
> (Meyer, 1926)
>
> building is a biological process. building is not an aesthetic process. In its basic design the new dwelling house becomes not only a piece of machinery for living in but also a biological apparatus serving the needs of body and mind ... thinking of building in functional and biological terms as giving shape to the living process leads logically to pure construction.
>
> (Meyer, 1928; original text uses the lowercase)

The emphasis on technical functionalism in the 1926 version of Meyer's paper is transformed to the word "biological" in the 1928 version, a factor that was added to functionalism—in Meyer's view—at that time. The 1928 version indicates that Meyer noted psychological and ergonomic aspects and provided a reconstructed organization of his original scientific worldview. Thus,

Meyer shared theoretical structure with the unity of science movement at a conceptual level.

Meyer's Scientific Worldview and Bauhaus Students

According to Neurath, Meyer also instructed his students to refer to the general concepts of the "scientific conception of the world," not only to biology and sociology. Neurath, who was also socialist activist, criticized Meyer's architectural works, theory and teachings at Bauhaus in the magazine *Der Klassenkampf* (*The Class Struggle*) in collaboration with architect Josef Frank as follows:

> From the seriousness of such belief, he [Meyer] attempt biological and sociological underpinning of architecture. Again and again he referred his students to science, not only technical, biological, and sociological discipline, but also modern scientific conception of the world in general.
>
> (Frank and Neurath, 1930)

Since "scientific conception of the world" is also used as the title of a book by members of the Vienna Circle, it can be inferred that Nuerath's words are alluding to the unity of science movement itself.

Tolziner and Weiner's communal housing for factory workers clearly reflected this sentiment by Meyer, with Tolziner (1989) describing their calculations and design regarding a floor plan as follows:

> "...there was an attempt at an expression to facilely and visually take in all structural elements of the 'Calculation and Design Leading to the Resolution of Floor Plans for Integrated Dwelling Units,' so that people could follow the process to achieve and prove the solutions to the problem."

Thus, they reached an important and original solution that unified the individual scientific

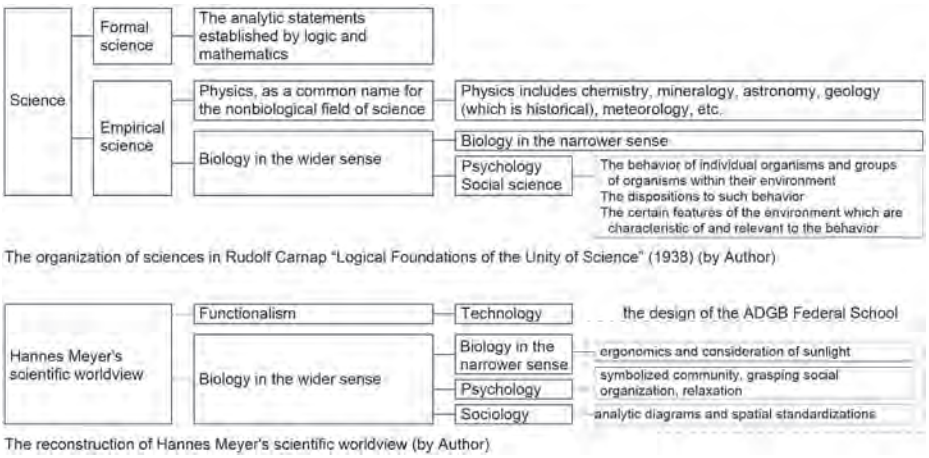

Fig.3 The reconstruction of Hannes Meyer's scientific worldview based on the framework of organization of sciences in Rudolf Carnap's "Logical Foundations of the Unity of Science" (1938)

analyses into architecture, using basic scientific principles taught during their architectural education at Bauhaus under Meyer.

Conclusion

This study reveals the following points. First, that Meyer used sociology to design analytic architectural diagrams and spatial standardizations. Second, he (and his students) used psychology to design spaces that enabled people to recognize a symbolized community, to grasp a social organization, and to help them relax their mind. Third, Meyer used human biology to determine the size and orientation of buildings, rooms, and windows, unifying the sciences of biology, psychology, and sociology in not only his works but also his architectural instruction. Finally, this unified scientific worldview was similar the framework noted in "Logical Foundations of the Unity of Science" and, on a conceptual level, shared a common theoretical structure with the unity of science movement itself. Meyer's scientific worldview was reflected in his theory of architectural education at the Bauhaus as well as in his students' works, as he incorporated key concepts from biology, psychology, and sociology, and invited specialists from a wide variety of fields to serve as guest lecturers. The Bauhaus under Meyer was committed to a scientific worldview.

Following the 1920s and Meyer's work to pioneer a new structure for architectural education, he and seven graduates (including Tolziner and Weiner) went to the USSR to build city structures for the socialist state in 1930; another graduate went to Palestine to work on architecture for the Jewish state in 1931. Many of Meyer's students went on to be concerned with city planning and architecture design around the globe. Meyer's architectural education courses at the Bauhaus were unique in their approach as well as for their time and place, and both Meyer and his students manifested these scientific concepts and analytic methodologies in their global activities following their time at the Bauhaus.

References

Blume, T. (1993), Radikaler Aufbruch. In *Bauhaus Dessau 1925-1932* (pp. 32-62). Dessau: Bauhaus Dessau.

Carnap, R. (1938), Logical Foundations of the Unity of Science, In Boyd, R., Gasper, P. and Trout, J. D. (Eds.), *The Philosophy of Science* (pp. 393-404). Cambridge: The MIT Press.

Dahms, H. J. (2004), Neue Sachlichkeit in the Architecture and Philosophy of the 1920s, In Steve Awodey and Carsten Klein (Eds.), *Carnap Brought Home: The View from Jena* (pp. 357-375), Chicago: Open Court Publishing.

Dearstyne, H. (1930/31), Notizen aus den Vorlesungen von Dr. karlfied Graf von Drückheim über Psychologie (1930-1931), In Wingler, H. M. (1962), *Das Bauhaus* (pp. 166-167), Köln: DuMont Literatur und Kunst Verlag.

Frank, J. and Neurath, O. (1930), Hannes Meyer, *Der Klassenkampf*, 4(18), 573-575.

Galison, P. (1990), Aufbau/Bauhaus: Logical Positivism and Architectural Modernism. *Critical Inquiry,* 16, 709-752.

Gropius, W. (1929), Die Soziogischen Grundlagen der Minimalwohnung, *CIAM 1-2* (pp. 13-23). Nendeln: Kraus Reprint.

May, E. (1929), Die Wohnung für das Existenzminimum, *CIAM 1-2* (pp. 6-12). Nendeln: Kraus Reprint.
Meyer, H. (1926 and 1928), Die neue Welt, In Kieren, M (Ed.), *Hannes Meyer, Architekt 1889-1954, Schriften der zwanziger Jahre*, CH–Baden: Verlag Lars Müller.
Meyer, H. (1928a), Building. In Claude Schnaidt, *Hannes Meyer* (pp. 94-97), Teufen AR/Schweiz: Verlag Arthur Niggli AG.
Meyer, H. (1928b), Erläuterungen Zum Schulprojekt, *Bauhaus* 2(2/3), 14-15.
Meyer, H. (1929a), Vortrage in Wien und Basel 1929, In Meyer-Bergner, L. (Ed.) (1980), *Hannes Meyer, Bauen und Gesellschaft, Schriften, Briefe, Projekte* (pp. 54-62), Dresden: Verlag der Kunst Dresden.
Meyer, H. (1929b), Bauhaus and Society, In Claude Schnaidt, *Hannes Meyer* (pp. 98-101), Teufen AR/Schweiz: Verlag Arthur Niggli AG.
Meyer, H. (1930), Federal School of the General German Trade Unions Federation, Bernau near Berlin. In Claude Schnaidt (1965), *Hannes Meyer* (pp. 97-110), Teufen AR/Schweiz: Verlag Arthur Niggli AG.
Meyer, H. (1933), Wie ich Arbeite. In Meyer-Bergner, L. (Ed.) (1980), *Hannes Meyer, Bauen und Gesellschaft, Schriften, Briefe, Projekte* (pp. 100-104), Dresden: Verlag der Kunst Dresden.
Meyer, H. (1940), Bauhaus Dessau 1927-30. In Claude Schnaidt, *Hannes Meyer* (pp. 106-113), Teufen AR/Schweiz: Verlag Arthur Niggli AG.
Meyer, H (undated), Die Bundesschule des Allgemeinen Deutschen Gewerkschaftsbundes in Bernau bei Berlin, Manuskript, IV4(2)-82|1-445. This manuscript belongs to *Deutsches Architekturmuseum*.
Nerdinger, W (1989), "Anstößiges Rot," Hannes Meyer und der linke Baufunktionalismus - ein verdrängter Kapitel Architekturgeschichte. In Kleinerüschkamp (Ed.), *Hannes Meyer 1889-1954. Architekt, Urbanist, Lehrer* (pp. 12-29). Berlin: Ernst & Sohn.
Poerschke, U. (2014), *Funktion und Formen, Architekturtheorie der Moderne*. Bielefeld: Transcript Verlag.
Schäfers, B. (2003), *Architektursoziologie*. Wiesbaden: VS Verlag für Sozialwissenschaften.
Schnaidt, D. (1965), *Hannes Meyer*. Teufen AR/Schweiz: Verlag Arthur Niggli AG.
Tomita, H. (2008), Hannes Meyer's "Biological" Concept and its Loosening Influence on Form, *Journal of Asian Architecture and Building Engineering*, 7(2), 179-185.
Tomita, H. (2016), Architectural Spatialisation of the Results of Scientific Analyses in the 'Communal Housing for the Factory Workers of the Socialist State' Project by P. Tolziner and T. Weinar (1930), *Journal of Architecture and Planning (Transactions of AIJ)*, *81*(719), 203-213 (in Japanese).
Tolziner, P. (1989), Mit Hannes Meyer am Bauhaus und in der Sowjetunion. In Kleinerüschkamp (Ed.), *Hannes Meyer 1889-1954. Architekt, Urbanist, Lehrer* (pp. 234-263). Berlin: Ernst & Sohn.
Winkler, K. J. (1989), *Der Architekt Hannes Meyer, Anschauungen und Werk*. Berlin: VEB Verlag für Bauwessen.
Winkler, K.J. (2003), *Baulehre und Entwerfen am Bauhaus 1919-1933*. Weimar: Bauhaus Universität Weimar, 2003.

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Building on his research into Walter Gropius and Hannes Meyer, Hideo Tomita (b. 1974) received his Doctor of Engineering degree in March 2002 from Hiroshima University. From 2005 to 2006, he was a guest researcher in the Faculty of Architecture at Bauhaus University Weimar. In 2015, he won the JAABE Best Paper Award 2014 from the Architectural Institute of Japan, Architectural Institute of Korea, and Architectural Society of China for his essay on Meyer's activity in Moscow. From 2016 to 2017, he was a guest researcher at the Institute of Architecture, Technical Institute of Berlin.

City Planning and Architectural Education in the Establishment of the Academies in 18th-Century Spain

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Abstract

This article looks back at the unclear history of city planning education in Spain and examines its relationship with the educational history of architects. Spain is a country that has developed the most urban planning experts including hundreds of town construction cases of colonial towns in the history of city planning since the Age of Exploration. Today, city planning and/or urban design education in Spain is part of the architectural education, which is generally incorporated in the superior technical school of architecture in technical university or general universities.

City planning experts have historically been equal to military engineers or architects, but it is quite unclear how the education of city planning was started and developed. This paper organizes the basic history of city planning education in 18th-century Spain especially focusing on one of the important academies of related fields, the Royal Military Academy of Mathematics of Barcelona *(La Real Academia Militar de Matemáticas en Barcelona)* which produced many military engineers and was responsible for the education of city fortification also. The paper tells that the educational content of military academy such as above was also linked to urban space improvement what would be civil town planning.

The case study of the Royal Military Academy of Mathematics of Barcelona, observing the composition of the academy, its curriculum, instructors' backgrounds, students' notes, and so on, tells us that mathematics and geometry were deeply linked with military engineering and architecture. The education of mathematics, especially of geometry, was a basic knowledge to create reasonable and well-ordered construction of fortifications for engineers. The engineers related to the Academy played an important role on the fortification design of not only the Spanish colonial towns but also some important fortification projects of the towns in Spain. Moreover, as those engineers were also involved in urban public space development, it is obvious that the education on mathematics and geometry for engineers in the military academy played an important role on the development of not only military urban and architectural projects but also civil planning projects.

Keywords: Royal Academy of Mathematics of Barcelona, City Planning Education, Spain, Military Engineers, Architects, 18th century

Introduction

It is important to understand the historic formation of town planning education in early modern Spain, where a large amount of town planning was practiced in an era when the modern concept of "urban planning" had not yet been established. This paper aims to show the historical formation process of town planning education, looking at the academies that produced experts who were in charge of city planning enterprises, in the context of architectural education.

The principal institution for architects and engineers in 18th-century Spain was the academy, not in Madrid, however, but in Barcelona. The Royal Academy of Fine Arts of San Fernando was established in the mid-18th century, but before that, the Royal Military Academy of Mathematics of Barcelona had been established as an educational institute for military engineers in the 1720s.

The historical development of architectural education is important not only from the viewpoint of fine art education but also from the viewpoint of the architectural education of engineers. It is impossible to separate the basic concept of architectural education from the aspect of city improvement measures such as the civil engineering and urban aesthetic, that is, city planning education. The profession of architect, in addition to including the design of buildings, involved the restoration of buildings and the beauty of cities. Additionally, as seen in Spain and its colonial urban development projects, architects and technicians were experts responsible for the fortification design in the planning of roads, bridges, and plazas.

The 17th and 18th centuries were times when the modern concept of "urban planning" had not yet been established, but after the Renaissance, architects had treated knowledge of city planning as part of architectural theory, and architects had received such an education. The education process of architecture and city planning is not clearly understood; it is relatively easier to capture the education history of city planning by paying attention to expert educational institutions for professionals of military projects.

This paper focuses on the composition of the Royal Military Academy of Mathematics of Barcelona, which was established as a constructional educational institution for military engineers in the 18th century; it further summarizes the basic knowledge of the historical development of city planning education for architects.

Engineers in their home country and colonial cities

Urban drawings created in the Spanish colonial period that show town space composition often include information about the related engineers, including names. The personal history of the engineers, upon examination, shows hints about how they absorbed the knowledge of drawing urban plans. For instance, the engineer Agust'n Crame y Mañenas (1730-1780), who drew the urban image of Campeche *[Fig.1]*, was a military engineer and was also a professor at the Royal Military Academy of Mathematics of Barcelona[1]. As another example, Juan Martín

1) ——— MUÑOZ CORBALÁN, Juan Miguel (coord.): *LA ACADEMIA DE MATEMÁTICAS DE BARCELONA, El legado de los ingenieros militares*, Ministerio de Defensa, 2004, p.185.

Fig.1 Urban image of Campeche, 1772 (MUÑOZ, 2004, p.178.)

Zermeño (1700-1773), an engineer known for the Royal Fortress of San Fernando on the outskirts of Figueras, Spain, is also known for his success in colonial Cuban and Chilean cities.

Military engineers who were active in urban planning and urban improvement projects in both their home country and the colonial cities were high-ranking engineers called, among other titles, Ordinary Engineer, Extraordinary Engineer, Chief Engineer, etc. It is known that they were engaged in education at the Royal Military Academy of Mathematics of Barcelona or that, in many cases, they commonly were educated as an engineer at this academy and they were, so to speak, selected engineers. The Royal Military Academy of Mathematics of Barcelona was expanding education in various fields, which will be explained in a later paper, but in this paper, we are focusing on the characteristics of educational institutions that are especially related to city planning.

City planning academies in Spain

Some improvements to educational institutions of architecture and city planning in early modern Spain took place in the era of King Philip II. The first notable example would be *La Academia Real Mathematica* (the Royal Academy of Mathematics), founded in Madrid in 1582 under the direction of Spanish architect Juan de Herrera and Italian military engineer Tiburzio Spanocchi (1541-1606). This institution imparted knowledge necessary for the planning of military facilities such as Euclidean geometry, navigation technique, and fortification, and it is thought that it also included education related to city planning. However, this institution did not last long and closed around 1625.

In 17th-century Europe, fortification theory by French engineer Sébastien Le Prestre de Vauban (1633-1707) was remarkable. An outstanding example of a Spanish educational institution is the Spanish military academy in Brussels. However, this academy lost its function at the beginning of the 18th century. During the same period, the Spanish Royal started to plan the establishment of an educational institution for military engineers in Barcelona: *La Real y Militar Academia de Matemáticas de Barcelona* (Royal Military Academy of Mathematics of Barcelona), that we focus on this paper.

Another institution, *La Real Academia de Bellas Artes de San Fernando* (Royal Academy of Fine Arts of San Fernando), was established in Madrid in 1752. There, under the influence of Italian education, expert education for arts, painting, sculpture, and architecture were started. In this style of architectural education, there was a basic concept of control of excessive baroque decorations and of reforms of ordinary architecture by the military architects[2].

2) ———— Antonio de Lizaur y de Utrilla, ed. *LA ILUSTRACIÓN EN CATALUÑA: La obra de los Ingenieros Militares*. Barcelona: Ministerio de Defensa, 2010, pp.150-164.

The Royal Academy of Fine Arts of San Fernando grew as an educational institution for architects and civil engineers. This academy played a vital role in producing important architects and military engineers related to public construction projects in that century.

The Royal Military Academy of Mathematics of Barcelona, on the other hand, was established before that of San Fernando in necessary under the situation of the city of Barcelona and Spanish Succession War, and academy in Barcelona was realized. In this institution, education for architects and military engineers was practiced not in terms of one of three representative arts, but from a viewpoint of architecture and city planning as science.

The formation of the Royal Military Academy of Mathematics of Barcelona and its background

Before the establishment of the Academy

In 16th-century Spain, when fortification projects were being undertaken frequently, an Italian engineer, Tiburzio Spanocchi (1541-1606), was appointed as the director of Spanish fortification engineering; thus, Spain was dependent on Italian tradition and engineering. Such fortification engineering was practiced not only in the home country of Spain but also in its colonies[3]. Another example of Italian influence is another Italian engineer, Bautista Antonelli (1547-1616), who was engaged in the fortification project of the Strait of Magellan.

Spanocchi established *La Academia Real Mathematica* (Royal Academy of Mathematics) in Madrid in 1582, together with Juan de Herrera (1530-1597), an architect and also a mathematician, under the royal instruction of King Philip II. It was established as an educational institution for experts such as geographers, astronomers, architects, engineers, military experts, and other mathematical scientists. Later, the academy put more emphasis on practical education than theoretical education, adding cosmography and navigation; it began to function as an institution for training the young people of the court.

Outstanding academics in these fields were gathered as faculty members. Among them was military architect Cristóbal de Rojas (1555-1614)[4], who was a student of Spanocchi and also an assistant of Herrera, and another military engineer, Pedro Rodr'guez de Muñiz, who specialized in math and the square root. Military architecture is a field centered on fortification, and it required knowledge of architecture and military technology. Mathematical knowledge such as geometry was also an indispensable factor for a rational architectural planning with high protection. *Academia Real* itself cooperated, in 1625, with *Colegio Imperial de Madrid* (Royal College of Madrid, or *Reales Estudios de San Isidro*), which was also founded in Madrid at the end of the 16th century, and was responsible for natural sciences education. *Academia Real* was

3)———In Spain, Spanocchi practices fortification projects in such as Jaca, Pamplona, Fuenterrabía, and in the American colonies in the fortification of the Magellan Strait. MUÑOZ CORBALÁN, Juan Miguel (coord.): *LA ACADEMIA DE MATEMÁTICAS DE BARCELONA, El legado de los ingenieros militares*, Miniterio de Defensa, 2004, p.173.

4)———CRISTÓ BAL DE ROJAS wrote *La Teórica y práctica de fortificación* (Madrid, 1598), as one of the great achievements of *La Academia Real Matemática*. He had a concept that the most important thing as a military engineer was to fully understand geometry. Francisco Javier Sánchez Martín, *Estudio del léxico de la geometría aplicada a la técnica en el Renacimiento hispano*, Universidad de Salamanca, 2009, p.48.

at that time specializing in mathematical science, and collected educators from various specialized fields, but eventually closed in 1783 owing to a lack of facilities and management system.

The great development of artillery power in the 17th century made urban fortification more important than ever. Because of this, demands for strengthening educational systems of mathematics, military affairs, and architecture increased, and we can assume that the knowledge required by servicemen and engineers has been mixed. Military knowledge required by engineers that were engaged in urban improvement increased, as such military knowledge would be required for fortification projects in Spain as well as in its colonial cities.

In 1675, the *Academia Militar de Bruselas* (Military Academy of Brussels) was founded. It was an institution for professional education for artillerymen and engineers, established under the direction of military engineer Sebastián Fernández de Medrano (1646-1705). Many engineers were trained at this academy, and from this academy there were many dispatched to the colonial cities in America. The Royal Military Academy of Brussels was an important military academy in the Spanish fortification project, but when it fell to the French army in 1697, it declined, leading to its dissolution in 1706. However, this the academy directly influenced the organization and development of the Royal Military Academy of Mathematics of Barcelona in the 18th century.

Establishment of the Royal Military Academy of Mathematics of Barcelona

At the end of the 17th century, the Royal Academy of Mathematics in Madrid was set to relocate to Barcelona, and engineer Sebastián Fernández de Medrano was nominated as the general director; however, Medrano would pass away in 1705. Prior to his death, Medrano planned an outline of the future Academy of Mathematics of Barcelona and presented it to the king, and it was decided that the establishment of the Royal Military Academy of Mathematics of Barcelona would be established following a Royal Decree by King Charles II on January 22nd, 1700. The education would follow the same policy as Brussels' Academy under the guidance of general directors Francisco Larrando de Mauleón and José Mendoza y Sandoval, but the Academy's activities were temporarily canceled because of the Siege of Barcelona of 1705 for a short period of time.

After that, engineer, Jorge Próspero de Verboom[5] was appointed chief engineer on January 13, 1710, when the academy was started up again. As Verboom was one of the important disciple of Medrano in Brussels, Barcelona's Academy would follow the policy of Brussels' Academy.

Improvement of the educational environment

The academy did not open quickly, but Verboom arranged the educational environment with facilities such as the drawing room and faculty, student, and teacher's lodgings, which were important for receiving education in geometry, drafting, and fortification planning, and on June 22nd, 1720, the Royal Military Mathematics Academy of Barcelona was officially opened. At this time, the general director, Italian engineer Mateo Calabro (1720-38, term of office), was appointed. After that, it became an educational institution for engineers and infantry, and later

5) ——————Verboom was an engineer who was educated Medrano in Brussels.

only for engineers, lasting until its closing in 1803.

The academy developed and improved the teaching method for fortification planning and its appropriate scale, etc. The result was used in city planning of the Spanish colonies in America, and it is said that many of the architects on the new continent were produced in this academy. It is also said that Calabro promoted algebra, cosmography, astronomy, and navigation techniques, and made light of the practical contents such as fortification projects and drawings.

The directors who followed Calabro were engineer Pedro de Lucuze (1738-1779), then Miguel Sánchez Taramas (1779-1789), and Félix de Arriete (1789-1793). After 1724, the academy was located in a corner of the arsenal (weapons plant) of Barcelona's fortress, *Ciutadella*. The academy needed at least two large rooms and sufficient light. One of the two large rooms needed capacity as a classroom for 30 to 40 people to learn mathematics and geometry. The other was a classroom for drawing and fortification planning classes, which was calculated to be large enough for half of the students to be able to use.

The official rule of the Royal Military Academy of Mathematics of Barcelona, to be precise, was promulgated in 1739 as part of the Royal Ordinances. In addition to the nomination of one director and two assistants, it was also stated that one drawing director (overseeing all engineers) and a set of teaching materials and tools (two globes, a celestial globe, a protractor, a compass, a level, etc.) should be prepared. However, what is further remarkable is that the director was responsible for maintaining the level of the lessons, and for regulating the period and the contents of the lesson. In particular, the number of students was to be no more than 40; the age of the students had to be over 15 and under 30 years old, and they were to be endowed with aristocratic behavior and dignity. The Academy seemed to support those selected applicants to be able to get education in Barcelona to produce more excellent engineers.

Academy's educational program

The Brussels' Academy, the precedent similar institution, had a two-year educational program. The first year was dedicated to general fundamentals, and the second year to a program for engineers and artillerymen. However, in this Academy of Barcelona, it was enhanced to be a three-year program.

There were four courses, each one of which lasted 9 months. The first two courses were used to acquire the knowledge required as an officer's mission, and the other two courses to learn the requisite knowledge to be an engineer and an artilleryman. This program of 3 years total was aimed at learning all the pure mathematics, applied mathematics, culture for military personnel, and knowledge that was directly useful for engineers. The following table (Table 1) shows the eight categories of required subjects *[Table. 1]*.

In this way, instructions to effectively impart the requisite knowledge for military engineers were laid out. However, as there were no materials to educate in the Castilian language, the leader was obliged to write the teaching content and the students were required to copy it. The general director was instructed to check the faculty's teaching notes and the beauty of the drawing to be used[6]. For this reason, we can today see some of the lesson notes *[Fig.2 and 3]*.

Subjects	Topics of study fields
1st Subject : Arithmetic	Integral number / Linear algorithm / Fraction and ratio / Principle of proportion / Power and roots, and progression.
2nd Subject: elementary geometry	Elements of Euclid / Rectangle and division by diagonals / Properties of circles and straight lines and diagonals / Ratio and the properties of plane figures / Rectangular prisms and parallelepipeds / Pyramids / Prisms / Cylinders / Spheres / Conical curves
3rd Subject: trigonometry	Trigonometry / Drawing of plane figures / Inscribing and circumscribing circles and other figures / Deformation of plane figures / Use of tools / Area measurement / Volume measurement / Level measurement
4th Subject: Fortification studies	Polygonal fortress / Irregular fortress / Effective fortification planning according to the terrain / Reinforcement of fortresses
5th Subject: Canon studies	Properties, composition, examination, and preservation of powder / Old and new cannons, drawings of mortars, canons, gun carriage, and other weapons / Battery of artillery and mortars / Landmines / Artificial fire, artillery equipment and fortress catalog
6th Subject: Space geography	Celestial sphere / Geography / Waterway / Navigation technique / Weather
7th Subject: Mechanics	Movement of objects with weight / Mechanical devices / Irrigation / General overview on optics / Projection drawing
8th Subject: Civil architecture	Decoration of buildings, beautiful appearance of building, strength and safety of construction

Table 1 Educational categories of the Academy

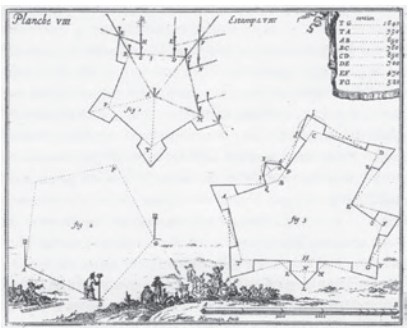

Fig.2 Explanation of the citadel plan shown in Medrano's book published in 1700[7].

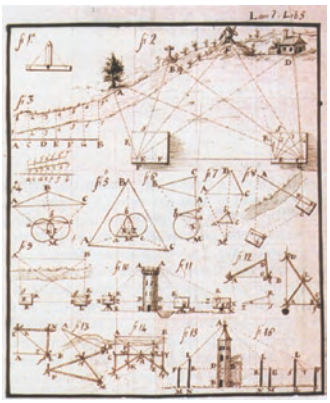

Fig.3 Note by a student at the Academy of Barcelona (MUÑOZ CORBALÁN, Juan Miguel (Coord.): *LA ACADEMI DE MATEMÁTICAS DE BARCELONA, El legado de los ingenieros militares*, Miniterio de Defensa, 2004, p.80.)

6) The Ordinances of 1739 said that students were obliged to participate in the classes "with paper, ink, and pencils to copy down the classes".

7) Medrano published his book in 1700 in "El architect perfecto en el arte military" and was very effective in the education of the academies. Alicia Cámara (coord.), *Los Ingenieros Militares de la Monarquía Hispánica en los Siglos XVII y XVIII*, Ministerio de Defensa, Madrid, 2005, p.128. Verboom, the invited director of the Barcelona Academy was a disciple of Medrano during his Brussels Academy era and worked on Medranoís publication of that book.

Academy's education and city planning

Influence

In military education, technology and tools for attacks and defenses against cities, and related knowledge of the natural sciences, were required for military engineers. The greatest challenge that used such knowledge was the design of fortresses and fortified cities. There, not only were rational planning techniques of the walls planned, but also the urban space within the fortification were planned.

Many military engineers that studied in the Academy of Barcelona worked on city planning in the Spanish colonial cities in the Americas, such as the planning of Argentina city and Campeche. Many that studied in the Academy of Barcelona also did planning of fortifications in Spain itself, such as the Fortress of Figueres. Thus, the Academy of Barcelona was a very important institution for the education of city planning in 18th-century Spain.

Military and architectural projects

Fig.4 The town planning of the Barceloneta district in Barcelona

Fig.5 The Fortification of Figueres planned by Juan Martín Zermeño (Plaza de San Fernando por Pedro Martín Zermeño, 1756 (Instituto de Historia y Cultura Militar. Ref.:GE-5/13)

Graduates from the Academy were not simply involved in polygonal fortification planning, but also played an important role in creating domestic urban space development projects. The district of Barceloneta is one such remarkable example *[Fig.4]*.

Barceloneta was an urban planning project, not a fortification project. After the Spanish Succession War, a fortress, Ciutadella, was to be constructed outside the walls of Barcelona and Barcelona citizens across a wide area of its construction site were expelled. A newly developed collective residential district was to be developed for those who were ordered to leave. Verboom, who originally came from Brussels, was responsible for the planning, but it was not brought to realization. Later, Juan Martín Zermeño was appointed to draw a different planning based on Verboom's idea. Blocks were arranged in a rectangular coordinate system, and street blocks are slender. The basis of today's Barceloneta's urban space was illustrated using these concepts, and its construction started in 1753.

On the military side, Zermeño planned the fortification of Figueres *[Fig.5]*, and its construction also started in 1753. This is a fortress of

Fig.6 San Miguel del Puerto, a church designed by military engineer Pedro Martín Zermeño in Barceloneta

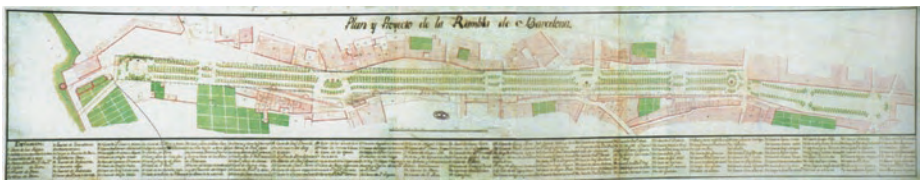

Fig.7 Planning of Ramblas in Barcelona, 18th century. (Archivo General de Simancas, Mapas, Planos y Dibujos, IX-106)

a huge scale, a representative fortress project of Catalonia; Zermeño's son, Pedro Martín Zermeño, also took over his father's work. Thus, we can recognize that Juan Martín Zermeño did both military and civil architectural works.

Juan's son, Pedro (1722-1790), was a military engineer, but one of his works is also a church, San Miguel del Puerto, in Barceloneta, showing his skills as a general or a civil architect *[Fig.6]*.

Pedro also made the plans for Barcelona's Ramblas *[Fig.7]*. This project also was planned around 1766 by Pedro Martín Zermeño, a military engineer, but it is a green area plan for citizens. This is an ideal urban space planning for civil society rather than a military project.

Thus, in addition to the fortification projects, military engineers naturally engaged in designing various urban development projects, public facilities, and general architecture as needed. Military engineers were familiar not only with the military projects, but also with the knowledge necessary for general urban planning. From these circumstances, we can infer that an education received at the Academy of Barcelona contributed to many of these areas.

The Academy of Barcelona produced engineers who were capable of undertaking all kinds of construction projects, including military facilities, urban planning, and general construction in Catalonia. What these have in common is the requisite knowledge for the realization of necessary order and safety in consideration of social space needs. Thus, we can assume that the Academy of Barcelona provided not just general but also professional knowledge and technique for engineers.

Conclusion

This paper looks at the Spanish institutions of the 18th century that provided city planning education; the focus is on the background of the establishment and educational contents of the most remarkable institution of the time, the Royal Military Academy of Mathematics of Barcelona.

The Royal Military Academy of Mathematics of Barcelona was an educational institution to train military engineers with various fields of education such as arithmetic, geometry, fortification, algebra, cosmography, astronomy, navigation, etc. Among those fields, the education of arithmetic, geometry, and fortification were particularly important and related to one another. The students' notes of the Academy show that knowledge of geometry is directly linked to the design of city fortification from the viewpoint of military defense and reasonable construction.

In addition, this paper also looked at the remarkable success of military engineers who engaged in the education of this academy and the military engineers who learned and graduated there. They played an important role in the construction of military facilities such as fortification projects in not only the Spanish colonial towns but also some important towns in Spain. It is also noteworthy that military engineers applied mathematical and geometrical knowledge to urban space development which is civil urban planning.

A further understanding of the progress of the educational environment on city planning in 18th-century Spain would be important to compare with the educational institutions of architects, and it will give us more details on the historic relationship between mathematical education and city planning education and architectural education. It will also be necessary to study the educational contents of related academies from the viewpoint of fine arts, such as the San Fernando Academy in Madrid, following these precedent military academies of mathematics.

Acknowledgements

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References

MUÑOZ CORBALÁN, Juan Miguel (coord., 2004). *LA ACADEMIA DE MATEMÁTICAS DE BARCELONA, El legado de los ingenieros militares*, Madrid: Ministerio de Defensa.

Antonio de Lizaur y de Utrilla (ed., 2010). *LA ILUSTRACIÓN EN CATALUÑA: La obra de los Ingenieros Militares*. Madrid: Ministerio de Defensa.

Alicia Cámara (coord., 2005), *Los Ingenieros Militares de la Monarqu'a Hispánica en los Siglos XVII y XVIII*. Madrid: Ministerio de Defensa.

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Towards an Interdisciplinary and Scientific Approach in Design Education: Petr Tučný and his Applied Aesthetics

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Abstract

Petr Tučný (1920-2012) was a Czechoslovak architect, an associate professor of design at several renowned universities and a respected designer. In 1950, Petr Tučný became the head of the Laboratory of Experimental and Applied Aesthetics at the University of Economics in Prague. His premise that "*aesthetical experience is not only emotional enjoyment but a rather complex process*" led him to pursue the interdisciplinary approach to tool-handle design based on medical research. Tučný's scientific viewpoint was parallel yet independent from the famous School of Arts in Zlín (Czechoslovakia) led by the sculptor and pioneer designer Vincenc Makovský and later by the internationally acclaimed Czechoslovak designer Zdeněk Kovář.

When comparing Tučný and Kovář's teaching methods in detail we can witness two different approaches in perceiving the designing strategy. While Kovář's rather intuitive way of designing was based on organic aesthetics and kept a distance from the rational and technical perception of design and scientific progress, Tučný, on the contrary, evolved a strict interdisciplinary and scientific approach. The paper will illustrate two different viewpoints on the ergonomic of hand-tools. At the same time, it attempts to shed light on Tučný's designing and teaching methods not only in the Czechoslovakia but also *further afield* (at the Academy of Fine Arts in Warsaw, at Halle University and at the Ulm School of Design).

Keywords: Petr Tučný, interdisciplinary approach, ergonomics, hand-tool, education, Czechoslovakia

Introduction

It was during the revolutionary spring of 1968, when a group of Italian students and activists occupied the Palazzo dell'Arte, the seat of Triennale di Milano, the world-famous exhibition of design and applied arts where the Czechoslovak architect and designer Petr Tučný became successful. At the 14th Triennale, Czechoslovakia decided to display prototypes of different manual working tools that focused on the relation between hand and object and were theoretically based on Petr Tučný's studies. Tučný's mock-ups and models of working tools, which took into consideration manual labour needs, appealed to left wing rebellious activists and thus they acknowledged him as their hero and leader[1]. Eventually, Tučný was awarded a special Triennale '68 Personal Award.

Petr Tučný (1920-2012) was a Czechoslovak architect, an associate professor of design at several renowned universities and a respected designer who also collaborated with, among others, the Belzer company. Tučný became involved in their product design and was responsible for a successful collection of working tools (in 1965, this collection was awarded the Design Award in the United States of America). He believed that good working tools could only come from an understanding of workers' needs together with complex studies of the central nervous system, ergonomics, functionality and construction and form. His premise that "*aesthetical experience is not only emotional enjoyment but a rather complex process*"[2] led him to pursue the effect of tool and machine on human behaviour. Most of his advanced studies were based on the assessment of complicated physiological processes in the human body. This paper attempts to shed light on Tučný's designing and teaching methods not only at universities in Czechoslovakia but also further afield (at the Academy of Fine Arts in Warsaw, at Halle University and at the Ulm School of Design).

The Laboratory of Experimental and Applied Aesthetics

In 1939, when the closure of all Czechoslovak universities due to the German occupation interrupted Tučný's studies, he and other students were sent to maintain the Bustěhrad railway. There, he experienced "with his own hands" the harsh impact of tough manual labour on the human body and started to be interested in designing tools that would protect the body, especially the fingers and hands, from the harmful effects of hard labour. Product design, especially fitting handles, would become Tučný's lifelong concern and his professional interest.

In 1950, Petr Tučný became the head of the Laboratory of Experimental and Applied Aesthetics at the University of Economics in Prague. The laboratory focused on the empirical studies of aesthetic reactions and processes in the central nervous system during the appraisal of beauty. Tučný claimed that an aesthetic reaction, either positive or negative, results in measurable changes in the body's organ activity. In his opinion, if a designer aims to influence people's

1) ———— From Petr Tučný's memoirs, also in: Klivar, M. (1968), Trienále dnes a zítra [Triennale Today and Tomorrow], *Rudé právo*, 4. 7.

2) ———— Typescript, Petr Tučný's private family archive.

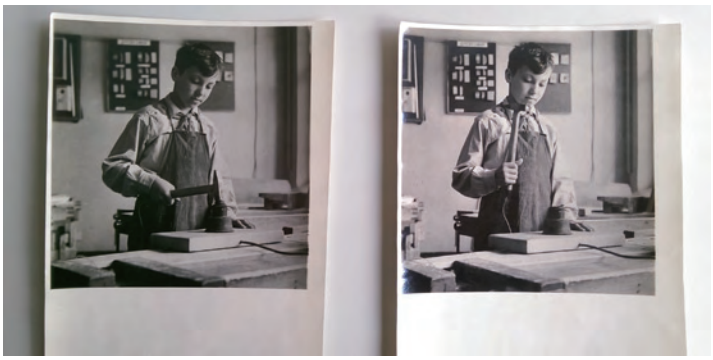

Fig.1 Experiments with manual working tools for children

feelings and aesthetics, he or she should not linger only on the external appearance. All technical aspects of a tool that affect our body and senses such as touch, sight, hearing or muscle control must be taken into consideration.

Consequently, since grey matter is a major component of the central nervous system of the human body and is involved in muscle control and sensory perception, Tučný decided to tackle this area of the brain. He performed numerous experiments with manual working tools in collaboration with leading physicians, such as professor Teissinger from the Institute of Work and Health, Prague, who investigated complex physiological processes and treated neurological disorders. Manual working tools were chosen as a basic example of the interaction between man and machine, with the aim of developing a highly efficient tool. Tučný aimed to prove that there are reciprocal relations between the dynamic stereotype of hand and brain. He assumed that if manual labour develops and maintains job-readiness and skilfulness, it also influences the brain and its complex functions, while the well-developed brain retroactively controls the creative manual activity of the hand.

Two Different Viewpoints on the Ergonomic of Hand-tools

Tučný's scientific viewpoint was parallel yet independent from the famous School of Arts in Zlín (Czechoslovakia) led by the sculptor and pioneer designer Vincenc Makovský and later by the internationally acclaimed Czechoslovak designer Zdeněk Kovář. The educational methods at Zlín School of Arts (as well as at School of Arts and Crafts in Bratislava led by Josef Vydra) continued to spread the Bauhaus ideas and Ruskinian effort to connect life and art[3]. The school in Zlín did not follow the traditional academic concept of *belle arti* teaching. On the contrary,

3) ——— Many key Bauhaus personalities such as László Moholy-Nagy or Hannes Meyer were invited as the guest lecturers at the School of Arts and Crafts in Bratislava. When the Bauhaus closed in 1933, Josef Albers asked Josef Vydra for a teaching position in Bratislava. However, soon after he received an offer from Black Mountain College in North California, which he accepted. See Kolesár, Z., Two Bauhaus Inspirations – The School of Arts and Crafts in Bratislava and the School of Arts in Zlín, in: Jakubíček, V., Kolesár Z., Mílek, V., Pomajzlová, A. (2015), *An Island of Art in a Sea of Industry*, Zlín: Regional Gallery of Fine Arts in Zlín in cooperation with Václav Chad's Gallery in Zlín, p. 91.

the education system led students towards practical aesthetics and industrial arts. The main asset was the practical cooperation between students of the School of Arts in Zlín and companies or state institutions on specific design projects.

The teaching methods of Vincenc Makovský based on the sculptural approach that put emphasis on the final artistic form without any reference to economics or market requirements did indeed provide very important input and a starting point for Czechoslovak industrial design in general. Subsequently, Zdeněk Kovář refined and elaborated Makovský's teaching methods but his humanistic and artistic approach remained noncognitive. When comparing Tučný's and Kovář's teaching methods in detail we can witness two different approaches in perceiving the design strategy. While Kovář's rather intuitive way of designing was based on organic aesthetics and kept a distance from the rational and technical perception of design and scientific progress, Tučný, on the contrary, evolved a strict interdisciplinary and scientific approach influenced by the principle of "die gute Form".

Tučný's advanced way of designing was criticised by several theorists and art critics such as Josef Raban. Raban did not believe that the future of tool design would depend on science. So, he perceived Tučný's competitive theories and published articles as personal insults against himself, Zdeněk Kovář and the whole School of Art in Zlín. For example, in the article about Kovář's project for Tatra Kopřivnice (a Czechoslovak manufacturer producing well-known vehicles) Raban spoke out strongly against Tučný's exact and interdisciplinary scientific approach: "*So, a designer cannot get along without science? Do we really have to create artistic work based on scientific findings? Let's see, the shape of the car that was designed by Kovář was far more elaborate than the other one based solely on scientific research and technology. In my opinion, a designer's matured and cultivated taste results in projects that are not against recent research. Social praxis is the foundation, scale and goal for a designer who cannot and, thank goodness, does not have to wait until Petr Tučný's interdisciplinary scientific approach sets the foundation and system of our discipline*"[4]. With regard to the rapid progress of industrial design and science that had made great strides, Raban's preconceived article that aimed to defend Kovář's work and Raban's own opinions appears biased and reactionary. Opinions and theories that used to be valid at the beginning of 1950's were ten years later totally outdated. Form and design as a discipline changed dramatically towards rationalism and minimalistic forms.

Tučný believed that a designer's attitude and formation must integrate clear thinking and responsibility for the high standard of a final product: "*At first sight, design may seem to overflow with playfulness, cultivated forms and a humanistic approach. However, from an insiderís point of view, things are far more intricate. An effective design process requires understanding, responsibility, complex education and a capacity to integrate scientific knowledge into an emotional expression. During such a demanding process, a designer as a creator of new material and spiritual values, is obliged to respond to several simple yet crucial questions: what, how, when and who for?*[5]"

4) ———— Raban, J. (1957), O průmyslovém výtvarnictví a jeho estetice, *Tvar* IX (4), pp. 105-118.

5) ———— What shall a final product fulfil? What material, technology, construction or economic circumstances shall be adopted? Who is the user and what are his needs? The question "when" includes a time factor in both dimensions, i.e. seasonableness and lifespan of the project. Typescript, Petr Tučný's private family archive (year 1994).

The interdisciplinary approach to tool-handle design based on medical research was a challenging task for Petr Tučný. In his opinion, previous approaches and the use of traditional cylindrical handles did not incorporate enough knowledge to enable a useful and usable tool design.

It should be recognised that ergonomic principles had already been included in the design process (e.g. by the Institute für Griff-Forschung in Germany or by the above mentioned Zdeněk Kovář in the Czechoslovak Republic). There were also many other designers and theorists concerned with the ergonomic design and usability of working tools such as László Moholy-Nagy and Otto Kolb (Nagy's colleague at the New Bauhaus in Chicago) as well as Thomas Lamb, an American industrial designer, whose anatomical studies of handles were presented at the exhibition at the Museum of Modern Art in New York in 1948[6].

However, Tučný discovered that it was not possible to derive the final shape of a handle from a simple plastic imprint of fingers flexed to clench an object during an appropriate action. The resulting power grip handle appears to be ergonomic at first sight, yet it does not adequately impact sensory organs on the surface of the hand. Workers use tools in limited monotonous positions through repetitive movements and the hand becomes a dull vice without creative employment and as a result grey matter is poorly stimulated.

Moreover, using tools that require substantial muscle force and stressful working postures can lead to discomfort, pain and cumulative trauma disorders. Consequently, inaccurate motor activity and reduced skilfulness influence the upper nerve system and create negative emotional sensations followed by harmful perceptions. The defensive reflex that arises from this may be repressed, but this action consumes a lot of nerve energy and influences the behaviour, working skills and the tonus of grey matter (i.e. alertness and skilfulness rapidly declines).

Seven Zones of the Hand

Tučný searched for different criteria to determine a fitting handle that would result in the optimal shape to increase the performance and comfort of the worker and stability of the working tool in the hand. He conducted a great amount of research which considered all aspects of manual labour including; a subjective comfort rating of a worker using a hand-powered hand tool, finger force measurement, efficiency of muscle and nerve activity. Knowing the task, workplace[7] and condition of tools were crucial factors for the designer.

A deep knowledge of the anatomy and mechanism of the human hand was critical for Tučný's method. He knew that a hand possesses plenty of sensory nerves that may supply vast sensory information. So, he created a mapping system defined by seven zones to identify the grasping strategies and studied the dynamic stereotype of the pressure distribution and contact forces. The below mentioned seven zones are activated actively or moderately during every ac-

6) ——— Three years later, a collective exhibition *Hand und Griff* that focused on the problematics of working tools was organised in Europe (Vienna). Subsequently, the renowned British magazine *Design* published a series of articles analysing the ergonomic approach to product design. See: Tomrley, C. G. (1952), The Problems of Handles, *Design* 39, pp. 8-13; Jones, J. C. (1954), Handles, The Ergonomic Approach, *Design* 72, pp. 34-38.

7) ——— Tučný himself very often visited workers *in situ* – in factories, mines, engineering plants and so forth.

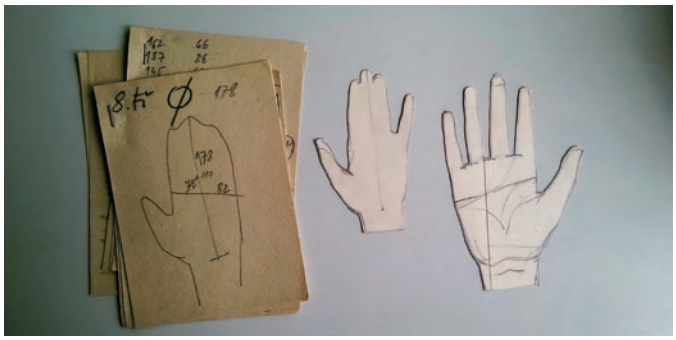

Fig.2 Experimental measurements (from Tučný's private archive)

tion of a hand (whether controlling a machine or when developing fine motor skills during sculpting or playing a musical instrument):

1. Gripping ring
2. Zone of the second and third finger with dominant function of secondary orientation
3. Zone of the little finger with function of fine precision
4. Interdigital space between fingers, essential for performing a power grip. It is also the most exposed part of the hand.
5. Hypothenar muscle, the ball of the little finger
6. Thenar muscle, the ball of the thumb
7. Well of the palm, least protected part of the hand[8)]

Based on the findings, he altered the ideal shape of the handle with improved ergonomics that resulted in very positive subjective reactions (including aesthetics reactions), new motion habits and better working results. Meticulous assessment and a number of experimental measurements resulted in the finding that the three-sided truncated squared timber is the most suitable form of a handle[9)]. Such a handle provides good grip, reduces the effort needed to use the tool effectively, prevents the tool from slipping out of the hand and minimizes the risk of laceration and work-related musculoskeletal disorders[10)]. On the contrary, handles with a circular cross-section were found to be completely inappropriate.

8) ——— Tučný, P. (1994), *Ergonomie, Funkční analýza projektu rukojeti šroubováku*. Prague.

9) ——— The three-sided truncated square timber handles were used in Tučnýís successful collection for the Belzer company. The same manual working tools were also presented at the already mentioned Milanís exhibition. At the Triennale di Milano, surprisingly and paradoxically, the Socialist Czechoslovak Republic officially presented the above mentioned project that was designed and financed under the auspices of the West-German private company. Due to the political and economic situation in socialist Czechoslovakia in the 1960ís such products would not have been produced and as with most other promising ideas would have remained prototypes.

10) ——— From 1950s to 1960s Tučný published a series of articles on the manual working tool aesthetic such as Tučný, P. (1952), *K problematice výrobního výtvarnictví,* Prague; Tučný, P. (1962), *Teoretické základy technické estetiky*, Prague.

Tučný's Educational System: from General to Specific

At the beginning of the 1960's, despite a limited possibility to get a travel permit, Tučný could travel abroad and spread his innovative design approach among students at various universities in Europe. (The Socialist Czechoslovak Republic allowed him to travel in exchange for foreign money that the state earned owing to his patents.) Between 1961 and 1962 he was appointed associate professor at the Academy of Fine Arts in Warsaw (Poland). After that, he moved to Halle (Germany) where he became the head of the design department between 1963 and 1965. In 1965, through the intercession of the German Embassy in Prague, Tučný got the permission to leave Czechoslovakia for the famous the Ulm School of Design (West Germany). Following the Bauhaus tradition, the college of design in Ulm earned international recognition by emphasizing the multidisciplinary context of design. Tučný was appointed associate professor at the department of product design but unfortunately, the college was closed one year later as the result of cessation of grants[11]. (Later on, between 1979 and 1989, Tučný taught design at the Hochschule für bildende Künste in Hamburg, Germany.)

Fig.3 Petr Tučný (on the right) with students

The content of Tučný's lectures was always tightly connected with his lifelong research into ergonomics of manual working tools and product aesthetics. Thanks to preserved lecture notes in Tučný's private family archive we may follow the content of his lectures for graduate and postgraduate students from the 1960's. Since product design and ergonomics are interdisciplinary subjects, students had to possess a wide range of knowledge and experience to acquire a holistic design approach. Graduate students were expected to work independently and success-

11) ———— Lindinger, H. (1987), *Hochschule für Gestaltung Ulm, Die Moral der Gegenstände*. Berlin: Wilhelm Ernst & Sohn Verlag, pp. 74-81.

fully solve artistic and technical problems. They were engaged in integrated, multidisciplinary projects and were expected to prepare a model documentation. The subjects of graduate design course were as follows:

Experimental modelling
Experimental drawing
Structure analysis
Visual communication
Teamwork methodology
Visual analysis (scale, proportion, colour)
Final presentation of a project (visual documentation, verbal argumentation)

As a practising designer, Tučný put emphasis not only on traditional skills such as drawing or modelling, but also on effective communication and presentation skills. During his seminars he taught students how to work individually as well as within a team. Tučný considered these skills very useful for further collaboration with future clients such as private companies or institutions. Apart from practical skills Tučný included some theoretical subjects in postgraduate programmes, such as design philosophy, logic, semiotics, theory of structures and mechanical properties, methodology of industrial design, seminars on colours and lectures on chosen problems from economy, ergonomics, politology and sociology.

Postgraduate students acquired basic craftsman techniques during the first two semesters. Later on, during the third semester they were given a problem set to solve. The task was usually connected with a simple engineering object (hand-tool). Students were instructed to design a mock-up of a tool accompanied by a comprehensive analysis including a problem solving strategy. In the last semester students continued to work on other problems connected with the previous project or they were given a complementary task to solve. At the end of the course students presented their final project within the given problem framework (using anagrams, verbal argumentation and photo documentation). Overall, the system seemed to provide students with profound and complex knowledge and highly professional skills. Moreover, Tučný wanted students to acquire a specific way of thinking and philosophical outlook.

In the late 1960's, based on teaching experience from Germany, Tučný wrote a methodological proposal for a new project of a postgraduate design school in Prague. Together with a group of renowned Czechoslovak architects, artists and designers[12] he wanted to establish a special educational institution that would incorporate the study of architecture, industrial design, visual communication, applied and monumental sculpture and painting with management and social science. The aim was to educate new students of architecture and design who would closely collaborate on complex multidisciplinary design projects in the public sector. Unfortunately, this promising project remained only on paper (due to the lack of "political will").

12) ——— Among the participating architects were Karel Prager, Jan Šrámek, Věra Machoninová, Miroslav Masák, Karel Hubáček; designers Petr Tučný and Jan Kotík, artistic group Huť, artists such as Čestnír Kafka or Stanislav Libenský.

Conclusion

This paper was intended as an insight into Petr Tučný's interdisciplinary and scientific approach in education and design process of hand-tools. His lifelong concern and professional interest in the design of manual working tools (handles in particular) led Tučný to study the effects of tools and machines on human behaviour. Meticulous assessment and a number of experimental measurements resulted in the finding that the three-sided truncated squared timber is the most suitable form of a handle. Tučný's Laboratory of Experimental and Applied Aesthetics in Prague focused on empirical study of aesthetic reactions and processes in the central nervous system. Subsequently, Tučný applied universally valid results of his interdisciplinary research to an educational concept that he successfully presented at several European universities. However, back in the Socialist Czechoslovak Republic Tučný did not find enough support to spread his ideas and his methods, sadly, did not thrive there.

References

Tomrley, C. G. (1952), The Problems of Handles, *Design* 39, pp. 8-13.

Tučný, P. (1952), *K problematice výrobního výtvarnictví*, Prague.

Jones, J. C. (1954), Handles, The Ergonomic Approach, *Design* 72, pp. 34-38.

Raban, J. (1957), O průmyslovém výtvarnictví a jeho estetice, *Tvar* IX (4), pp. 105-118.

Tučný, P. (1962), *Teoretické základy technické estetiky*, Prague.

Klivar, M. (1968), Trienále dnes a zítra [Triennale Today and Tomorrow], *Rudé právo*, 4. 7.

Lindinger, H. (1987*), Hochschule für Gestaltung Ulm, Die Moral der Gegenstände*. Berlin: Wilhelm Ernst & Sohn Verlag.

Tučný, P. (1994), *Ergonomie, Funkční analýza projektu rukojeti šroubováku*, Prague.

Kolesár, Z., Two Bauhaus Inspirations – The School of Arts and Crafts in Bratislava and the School of Arts in Zlín, in: Jakubíček, V., Kolesár Z., Mílek, V., Pomajzlová, A. (2015), *An Island of Art in a Sea of Industry*, Zlín: Regional Gallery of Fine Arts in Zlín in cooperation with Václav Chad's Gallery in Zlín, pp. 88-93.

Unpublished letters, diaries, memoirs from Petr Tučný's private archive.

Author Biography

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Petra Nováková is a PhD candidate at the Department of the History of Art, Palacký University of Olomouc, the Czech Republic, who completed a Mgr. in the History and Theory of Arts. Her scholarly interests focus on the cultural transfer, Czechoslovak and Italian modern arts, exhibition installations, applied arts and design. She has currently completed her dissertation entitled Czech and Slovak Artists at Biennial International Exhibitions of Applied Arts in Monza and at the Triennale di Milano, 1923-1996. She has received several scholarships at Università degli Studi di Milano, Italy. Her articles have been published in conference anthologies and cultural periodicals, such as *Design Magazine* or *Labyrint Revue*.

Scottish Challenge in Design Education: The Trustees Drawing Academy's Pedagogical Vision for Post-Union Scotland

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Abstract

In the mid-eighteenth century, Edinburgh was confronted with an increase in population and an indication of new prosperity connected to social and economic, as well as cultural and aesthetic, progress. The Union of 1707 between the Scottish and English Parliaments was partly responsible for this social-cultural boom. With the emergence of new money and social demands, Edinburgh was in a position to finally begin improving arts, sciences, manufacturing, industry, and living conditions in Scotland. The improvement of Scottish industry and manufacturing became one of the major issues tackled by the leading circles of Scottish society, which led to the opening of the Trustees Drawing Academy of Edinburgh, the first publicly founded School of Design in Great Britain, in 1760. The aim of the Academy was to provide practical instruction under the guidance of experienced masters to fellow Scots who hoped to get a proper education in artistic skills and abilities for *utilitarian* arts in order to contribute, as a 'designer', to the advancement of Scottish industry and manufacturing.

Keywords: Trustees Drawing Academy of Edinburgh, Scotland, The Select Society, The Honourable Board of Trustees for Fisheries, Manufactures, and Improvements in Scotland, The Scottish Enlightenment, The Union of Parliaments

Introduction

In the mid-eighteenth century, the flowering of the Scottish Enlightenment, Edinburgh, the 'capital' of formerly independent Scotland, was confronted with an increase in population and an indication of new prosperity connected to social and economic, as well as cultural and aesthetic, progress. The Union of 1707 between the Scottish and English Parliaments was partly responsible for this social-cultural boom: that is to say, the dissolution of the national boundary between the two nations of Scotland and England finally began to pay off for Edinburgh in the second half of the eighteenth century. With the emergence of new money and social demands, Edinburgh was in a position to finally begin improving arts, sciences, manufacturing, industries, and people's living conditions in Scotland.

In 1752, Sir Gilbert Elliot of Minto (1722-1777), an advocate for improvement of Scotland and one of the city commissioners appointed in Edinburgh in the following year, claimed that '... it is in prosecution of greater objects, that the leading men of a country ought to exert their power and influence', asking

> What greater object can be presented to their view, than that of enlarging, beautifying, and improving the capital of their native country? What can redound more to their own honour? What prove more beneficial to SCOTLAND, and by consequence to UNITED BRITAIN? (Elliot, 1752 August, p. 380)

The subject of improving Scottish industry and manufacturing was a major issue tackled by the leaders of the Scottish Enlightenment, leading to the opening of the Trustees Drawing Academy of Edinburgh, an art school founded in 1760 by the Honourable Board of Trustees for Fisheries, Manufactures, and Improvements in Scotland. The aim of the Academy was to provide practical instruction for fellow Scots who were involved in design for manufactures. The aim of this paper is to examine how the pedagogical vision of a 'nation' without political independence led to the institution of a School of Design in which design education was given primary importance, as it was considered to be very beneficial for advancements in Scottish industry, manufacturing, and ultimately living conditions.

The Select Society and the idea of encouraging *utilitarian* arts for Scottish manufactures

In 1827, Sir David Wilkie (1785-1841) discussed Scottish art in an address to young Scottish artists residing in Rome: 'The younger students should be aware that no art that is not intellectual can be worthy of Scotland.' (Bayne, 1903, p. 119) This observation was patently true when considering ways in which *utilitarian* art had been taught and practiced in Scotland since the middle of the previous century, for the tradition of design education in Scotland had originated in the intellectual circle of the Scottish Enlightenment, a remarkable age when every aspect of people's lives was examined and discussed in the prospect of further advancements.

The focus for the eighteenth-century Scottish intellectual scene at its peak was the large

number of societies and clubs that flourished in Edinburgh and encouraged animated discourse and debate. The most pioneering and influential of these was the Select Society, founded in 1754. It provided a place and opportunity for weekly discussions between the leading circles of the Scottish Enlightenment which ranged over philosophy, sociology, laws, religion, aesthetics and *utilitarian* arts. The Edinburgh-born painter Allan Ramsay (1713-1784), son of the poet Allan Ramsay (1686-1758), established the Society. In its issue of March 1755 *The Scots Magazine* reported on 'the institution and intention' of the Select Society, declaring that 'the meetings and transactions of the Select Society have for some time engaged the attention of the public' (Anonymous, 1755 March, p. 126):

> This society was formed the beginning of last summer. Its first meeting was on Wednesday the 23rd of May 1754, in the advocates [sic] library. The members composing it were at that time about thirty. The intention of these gentlemen was, by practice to improve themselves in reasoning and eloquence, and by the freedom of debate, to discover the most effectual methods of promoting the good of the country. (Anonymous, 1755 March, p. 126)

The Account of the Life and Writings of William Robertson (1801) by Dugald Stewart (1753-1828) listed the names of the 133 members of the Select Society at the time of October 1759. Many of the members were major figures in the Scottish Enlightenment: David Hume (1711-1776); Adam Smith (1723-1790); Henry Home, Lord Kames (1696-1782), philosopher and judge in the Court of Session, and later Lord of Justiciary, best known today as the author of *Elements of Criticism*, published in 1762; 'father of modern sociology' Adam Ferguson (1723-1816); historian William Robertson (1721-1793), who became the principal of the University of Edinburgh in 1762; six times elected Edinburgh Lord Provost, George Drummond (1687-1766); and Dr. William Cullen (1710-1790), physician and professor of chemistry, and later physiology at the University of Edinburgh, who was also president of the Edinburgh College of Physicians between 1773 and 1775. The rapid increase in the number of members was explained by *The Scots Magazine*:

> There appeared so much order, reason, and entertainment, in their debates, and many of the questions were so connected with the improvement of the country, that persons of the greatest eminence, both for station and abilities, were desirous of being admitted members. (Anonymous, 1755 March, p. 127)

It was as an offshoot of the fervent, intellectual activities of the Select Society that the idea of encouraging *utilitarian* art for industry and manufacturing in Scotland first emerged.

In 1707, when Scotland paid the painful price of loss of political independence through its union with England, it nevertheless anticipated economic progress due to access to the English colonies. Yet Scotland hardly gained any economic benefits from the Union during the first half of the eighteenth century. Trade with England and its colonies yielded little profit; instead, the increase of the Scottish share of public expenditures and the failure of trade to benefit Scotland led the Scots to feel that 'England is the heart, to which all the streams which it distributes are refunded and returned' (Smollett, 1771/1998, p. 278). It was only in the second half of the eighteenth century that Scotland finally started to reap economic benefits from the Union.

It is interesting to see, though, that the landed classes viewed the slowness of economic progress from a slightly different perspective. Certainly they had been aware of the necessity to foster Scottish manufacturing and further advancing Scottish industries, but their outlook on economic progress was, in general, positive. Although economic progress in Scotland was far slower than had been expected, the leading circles of Edinburgh simply thought, '[I]f we (Scots) are far behind, we ought to follow further', since 'we enjoy the same Privileges of Trade with them (the People of our Sister Kingdom of England)' (Phillipson, 1970, p. 143). Thus Alexander Wedderburn (1733-1805), a young Scottish nobleman and later Lord Chancellor of Great Britain from 1793 to 1801, wrote in the *Edinburgh Review* in 1755,

> The memory of our ancient state is not so much obliterated, but that, by comparing the past with the present, we may clearly see the superior advantages we now enjoy ... (Wedderburn, 1755 July, p. ii)

The Select Society initially aimed to introduce a strong sense of competition in the arts, the sciences, and manufacturing in Scotland, one capable of stimulating creativity in both utilitarian arts and manufacturing. In its issue of March 1755, *The Scots Magazine* featured *The Resolutions of the SELECT SOCIETY for the Encouragement of Arts, Sciences, Manufactures, and Agriculture* and reported on the society's plan to offer premiums for competitions:

> That Arts and Manufactures may, by the proper distribution of premiums, be promoted, is a certain truth, founded in reason, and confirmed by experience.
> By premiums, a spirit of emulation is excited in every artist; improvements become universally known; and merit receives the testimony of public approbation.
> A more substantial benefit than mere applause, arises also to the artist. He whose merit has been thus distinguished, will find, that although the value of the premium he has gained be inconsiderable, the extraordinary demand for his goods will amply recompense his labour.
> The SELECT SOCIETY, determined by these motives, appointed a committee of their number, to consider in what manner a design so laudable might be promoted ...
> In the distribution of premiums, the first place, they thought, was due to genius; it was therefore resolved, that the first premium be bestowed on the discoverer of any useful invention in arts or sciences. (Anonymous, 1755 March, p. 127)

While the pursuit of *usefulness* in and of arts, such as production of 'the best printed and most correct book' and the manufacture of 'paper', 'printed cotton', 'linen', the 'art of drawing', 'worked ruffles', 'bone-lace', 'carpets,' etc., was strongly encouraged, the *Resolutions* claimed that 'the art of painting in this country requires no encouragement' (Anonymous, 1755 March, p. 127). However, the Society felt that premiums should be given to encourage the 'art of drawing', since it was closely connected to the manufacture of printed cotton and linen:

> Manufactures of PRINTED COTTON and LINEN are already established in different places of this country: in order to promote an attention to the elegance of the pattern, and to the goodness of the cloth, it was resolved, that, for the best piece of printed linen or cotton cloth, made within a certain period, a premium should be allotted.

> The art of DRAWING being closely connected with this art, and serviceable to most others, it was resolved, that, for the best drawings by boys or girls under sixteen years of age, certain premiums be assigned. (Anonymous, 1755 March, p. 128)

The Scots Magazine also reported that the Select Society intended to contribute 'by every means' in its power to 'the encouragement of arts, sciences, manufactures, and agriculture' through a society established to implement improvements in art, science, industry and manufacturing (Anonymous, 1755 March, pp. 127, 129). This society was named *The Edinburgh Society for encouraging Arts, Sciences, Manufactures, and Agriculture in Scotland*.

The names of the recipients of the premiums given out in 1755 were listed in the January 1756 issue of *The Scots Magazine*, which further reported that

> The success that has attended this institution, has, we are informed, been suitable to the goodness of the design. In particular, it is said, the carpet manufacture has risen 1000 l. this last year; and so great a rise is thought to be owing to the premiums given by the society, which, though of small value, have had the effect to excite a spirit of emulation amongst the manufactures. As it is a matter of the utmost importance to this country, we shall from time to time present our readers with such accounts of the progress of this society as we receive. (Anonymous, 1756 January, p. 48)

The list of premiums for the year 1756, selected by the Edinburgh Society, was published in the magazine's February 1756 issue (Anonymous, 1756 February, pp. 105-108). The number of premiums given out had increased notably because of 'the good effects of the premiums given last year; having produced a larger subscription, the society has been enabled considerably to increase the premiums for this year, which it is not doubted will produce effects in proportion.' (Anonymous, 1756 February, p. 108)

The Honourable Board of Trustees for the Improvement of Fisheries and Manufactures and the institution of the Trustees Drawing Academy

A few years after this, however, the Edinburgh Society for encouraging Arts, Sciences, Manufactures, and Agriculture in Scotland stopped giving out premiums in favour of establishing a School of Design, an educational institute for the art of design or *useful* art, the aim of which was to advance Scottish industries and manufactures through turning out many talented designers. The Society had realized that the premiums had lost their cachet, for 'although competitors for the awards regularly submitted their designs, the standard of attainment was low' (Mason, 1949, p. 67). It was thus evident that a School of Design was necessary and 'a Master was urgently required to teach the art of design' (Mason, 1949, p. 67), and '[t]he need for such a school was appreciated by the Trustees' Committee who on 24th January 1760 recommended an expenditure of £115 for "teaching and promoting the Art of Drawing for use of" linen and woollen manufacturers' (p. 67).

The idea of opening a School of Design, which was to be 'the first School of Design in the three Kingdoms established and maintained at public expense' (p. 67), was also connected

to the activities of the Honourable Board of Trustees for the Improvement of Fisheries and Manufactures, a governing organization responsible for promoting and encouraging Scottish industries. The Honourable Board of Trustees had been established in 1727, and public funds, grants and financial aid had been invested in its activities by both the Crown and Parliament. As Scottish industries progressed, the Board's focus gradually shifted to the advancements of artistic skills and abilities of designers to be employed in the art of drawing for use in manufacturing; and, 'as a part of its obligation to the improvement of the Scottish textile industries', the Honourable Board of Trustees elaborated a plan to establish the 'Trustees' Academy for training Scots in skills of drawing for manufactures' (Brookes, 1989, p. 30). Not a few of the trustees of the Honourable Board of Trustees were party to the vigorous discussions which took place amongst the members of the Select Society, so that it is not surprising that an awareness of the necessity for design education for Scottish industries and manufactures was shared by the two organizations. Henry Home, Lord Kames, a member of both the Select Society and the Honourable Board of Trustees for the Improvement of Fisheries and Manufactures, is said to have been 'largely responsible for the establishment of the school' (Mason, 1949, p. 68).

The establishment of a School of Design was thus based upon both the need to improve artistic skills and abilities of Scottish artists to encourage Scottish industries and manufactures and the realization that a 'proper education,' conducted under the guidance of experienced masters, was essential for Scotland to be able to flourish economically.

In 1757, David Hume, being closely associated with the activities of the Edinburgh Society for encouraging Arts, Sciences, Manufactures, and Agriculture in Scotland, wrote a short but highly influential essay, 'Of the Standard of Taste'. The significance of this essay is that it was the first notable and earnest inquiry into aesthetics in which the authoritarian or canonical rules of classical aesthetics were formally challenged.

The essay bases its arguments on the concepts of 'experience' and 'individuality'. Hume expounds on these two concepts throughout the essay; for instance,

> ... though there be naturally a wide difference in point of delicacy [of the taste of beauty] between one person and another, nothing tends further to encrease [sic] and improve this talent, than *practice* in a particular art, and the frequent survey or contemplation of a particular species of beauty. When objects of any kind are first presented to the eye or imagination, the sentiment, which attends them, is obscure and confused; and the mind is, in a great measure, incapable of pronouncing concerning their merits or defects. The taste cannot perceive the several excellences of the performance; much less distinguish the particular character of each excellency, and ascertain its quality and degree. If it pronounce the whole in general to be beautiful or deformed, it is the utmost that can be expected; and even this judgment, a person, so unpractised, will be apt to deliver with great hesitation and reserve. But allow him to acquire experience in those objects, his feeling becomes more exact and nice. (Hume, 1757, pp. 274-275)

Hume emphasizes here the importance of one's own experience of 'practice' in a particular art, experience gained through surveying or contemplating 'a particular species of beauty' as an indispensable pre-condition on which one can 'encrease [sic] and improve' one's delicacy of the taste of beauty, *viz*., one's talent in arts. As one of the major founding members of the Select

Society, Hume maintained his influence on the conduct of the Edinburgh Society for encouraging Arts, Sciences, Manufactures and Agriculture, for this society was undoubtedly 'the first organized effort at improving taste in Scottish visual arts' (Brookes, 1989, p. 18).

Not only Hume, but Scottish Enlightenment thinkers in general, emphasised the indispensable role of 'experience' in acquisition of fine taste in the arts. Thus the Honourable Board of Trustees carefully searched for and appointed a 'well-experienced', 'long-practicing' artist in the field of *useful* arts as Master of the Trustees Drawing Academy.

John Mason (1949) gives a full account of the success of the academy's first Master, William De La Cour (Delacour) (1700-1768), a French-born painter and decorative artist:

> According to the Regulations governing the school, de la Cour taught three days in the week from 3 p.m. until 7 p.m. His students were charged one guinea per quarter. All except those nominated by the Trustees who were taught gratis. The course of study lasted for four years. At the end of each year, the Master of the school submitted his annual report showing the names of the students, their ages, designations, places of residence, and dates of admission and of leaving. (p. 68)

The Honourable Board of Trustees must have been very pleased by the fact that, under the guidance of De La Cour, the school flourished and that '[w]ithin four years of its institution its influence had spread' (Mason, 1949, p. 68). Following the death of De La Cour in 1767, the Trustees 'relied on' the assistance of Robert Adam (1728-1792), the greatest Scottish architect of the second half of the eighteenth century, also known as the most fashionable and successful architect of the day, to procure 'a master skilful in design in general and the drawing of Patterns for the manufactures & c in particular'; and 'before the middle of November 1768', De La Cour's successor, Charles Pavillon (1726-1772), was formally appointed. Following Pavillon's death in 1772, Alexander Runciman (1736-1785), 'the well-known painter, who, born in Edinburgh, had served an apprenticeship as a coach painter, and for five years had studied in Italy' (Mason, 1949, p. 69), was appointed as the third Master of the Trustees Drawing Academy. His appointment was the result of a careful consideration of each candidate's teaching ability, and the Honourable Board of Trustees was convinced that, by appointing Runciman, who himself had experienced apprenticeship in a *useful* art, the Academy, as an educational institute aiming for lifting up the standard of useful artistic skills and abilities for manufactures, would benefit greatly. The Honourable Board of Trustees, however, was soon let down, for, according to John Mason (1949), under Runciman's mastership 'the usefulness of the school declined' and '[s]tudents were admitted who made "drawing only an amusement", (p. 69).

It was in such a state, several decades after its establishment, that the future of the Academy was discussed: 'whether it should be discontinued and whether the interests of designing might not be better served by awarding premiums for the best patterns submitted in open competition were debated' (Mason, 1949, p. 69). The Minutes of the Honourable Board of Trustees of 23rd January 1786 states that 'A Report from the Secretary relative to the Board's Drawing Academy' *[Fig. 1-6]* was read by Robert Arbuthnot, Secretary to the Honourable Board of Trustees (Boswell, 1791/1833, vol. 1, p. 329), that day, and that Arbuthnot asserted that:

> Natural genius without the advantage of a proper education will seldom or never enable an Artist to excel. He must be assisted with advice, and by good models being shown to him. Without knowing those mechanical rules of art which have as it were been established, and are now sanctioned by the General practice of all Artists, genius may long labour to little purpose. Hence the use of a master whose mind is stored with the knowledge of the true principles of art, and who has taste to select and combine whatever is beautiful and pleasing in it. (Minutes, 1786, p. 112)

The same Minutes record that, in this meeting, 'the several letters' referring to the question of whether the Academy should be discontinued or not were 'read to and duely considered by the Board'(Minutes, 1786, p. 113). According to the Minutes, '[t]hey were of opinion that the Academy ought to be continued' (Minutes, 1786, p. 113). Those who had long experience in utilitarian arts, such as Robert Adam, John Stirling, who 'was largely concerned in the printing of linen and cotton', and Robert Fulton of Paisley, 'one of the largest manufactures of flowered silk and thread gauzes', were 'all of opinion that the Academy could serve a useful purpose to manufacturers and house furnishers' (Mason, 1949, p. 71).

Greatly influenced by these experts in *useful* arts, the Honourable Board of Trustees resolved to continue the Academy, on the condition of re-emphasising that the 'conduct of the Academy ... would "render it of real utility to the ornamental manufacturers," and prevent the

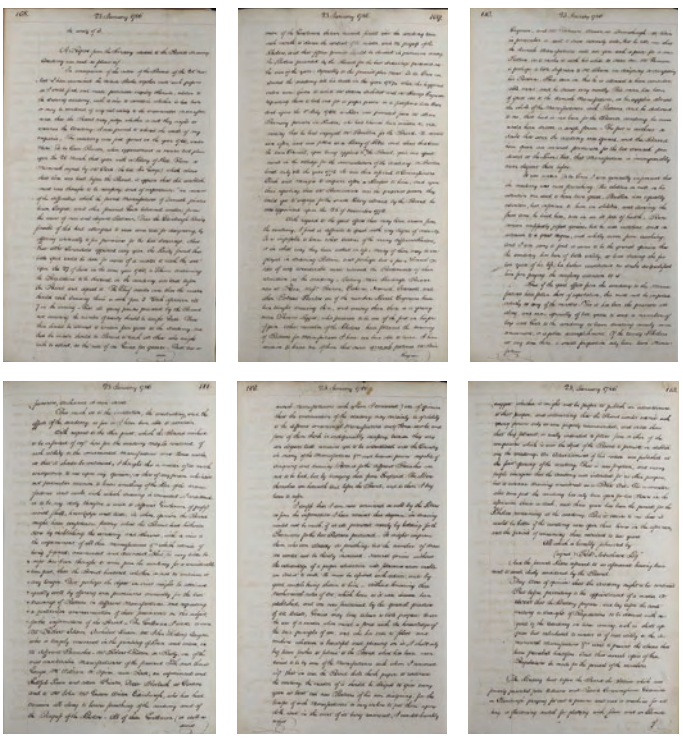

Fig.1-6 'A Report from the Secretary relative to the Boards drawing Academy', recorded in the Minutes of the Board of Manufactures, 23 January 1786. (National Records of Scotland, Edinburgh)

abuses which [had] hitherto prevailed' (Mason, 1949, p. 71). The Minutes, dated 6th February 1786, record the regulations, agreed upon on that day, to achieve properly 'the object' of the Academy, that is 'to promote and diffuse "an elegant taste" among manufacturers' (Mason, 1949, p. 71). The determination of the Board of Trustees to re-establish the Academy as a serious School of Design, not one for dilettantes, is made clear through the following regulation:

> That students could only be admitted on the authority of the Trustees, and those only who could produce evidence that they followed or intended to follow the occupations of an ornamental manufacturer, of a house decorator, or a furniture manufacturer, or that they intended to become designers for such trades. (Mason, 1949, p. 72)

Furthermore, the method by which the appointment of Master of the Academy was made was also clarified. Later the Academy created various classes such as 'pattern drawing' in 1835 and 'colouring' and 'ornamental and architectural drawing' in 1837: for each these classes a Master

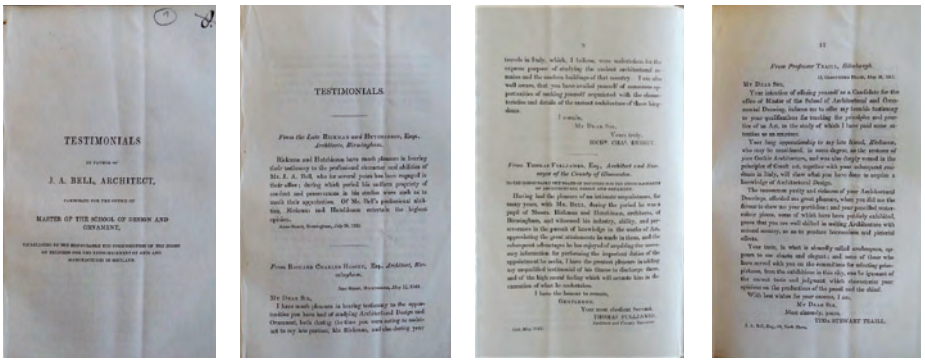

Fig.7-10 Testimonials in favour of J. A. Bell, architect, now a candidate for the office of master of the School of Design and Ornament: established by the Honourable the Commissioners of the Board of Trustees for the Encouragement of Arts, Manufactures in Scotland, Edinburgh: Publisher not identified, 1843?, pp. 1, 7, 8, 13. (Special Collection, The Centre for Research Collections, The University of Edinburgh)

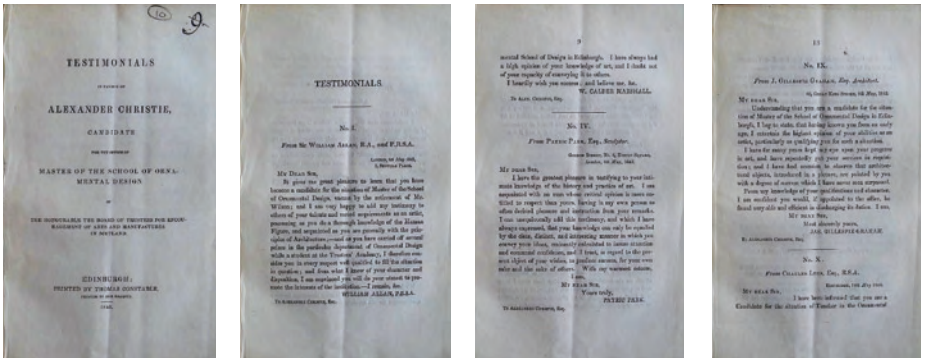

Fig.11-14 Testimonials in favour of Alexander Christie, candidate for the office of master of the School of Ornamental Design of the Honourable The Board of Trustees for Encouragement of Arts and Manufactures in Scotland, Edinburgh: Printed by Thomas Constable, 1843, pp. 1, 7, 9, 13. (Special Collection, The Centre for Research Collections, The University of Edinburgh)

with considerable experience and skills was to be appointed. As early as 1845, classes established by the Academy included: 'antique', 'life', 'colour', 'anatomy', 'architectural design', 'ornamental design', and 'frescoes'.

The Centre for Research Collections of the University of Edinburgh (The Trustees Drawing Academy of Edinburgh later became the Edinburgh College of Art in 1907 and has been a part of the University of Edinburgh since 2011) holds in its collection the records of how applications for those masterships of the Academy were made in the middle of the nineteenth century, including a number of testimonials for each candidate *[Fig. 7-14]*. The Centre also has in its collection teaching materials used at the Academy in the early 1840s which reveal the Academy's dedication to teaching and promoting the art of drawing for use in manufacturing and to the education of designers who were able to further advance the progress of industry in Scotland *[Fig. 15-24]*.

Fig.15-24 Plates for teaching design, from the library of the Drawing Academy of the Board of Trustees for Manufactures in Scotland (Paris: 1841). (Special Collection, The Centre for Research Collections, The University of Edinburgh)

Closing Remarks

'By striving to improve the art of design', by instituting the Trustees Drawing Academy, and by 'providing facilities for the instruction of artisans in the elements of pattern drawing and directing their activities to the creation of manufactures revealing artistic taste and elegance' (Mason, 1949, pp. 95-96), the Select Society, The Edinburgh Society for encouraging Arts, Sciences, Manufactures, and Agriculture in Scotland, and the Honourable Board of Trustees for Fisheries, Manufactures, and Improvements in Scotland all played central roles in the post-Union development of Scottish industry.

The Scottish Enlightenment philosopher Adam Ferguson once wrote that 'the virtues of men have shone most during their struggles, not after the attainment of their ends' (Ferguson, 1767/1966, p. 206). The institution of the Trustees Drawing Academy, through its pedagogical vision and patient campaign for education in design in order to further the advance of manufacturing and industry in post-Union Scotland, manifested the virtues of mid-eighteenth century Scots, who were willing to struggle to achieve a long-anticipated industrial prosperity. The Academy's institution, reformation and improvement of design education was an essential part of the progress of Scottish society and the struggle to demonstrate Scotland's own imagination and creativity after the national boundary between England and Scotland had been abolished.

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References

Anonymous. (1755, March). An account of the Select Society of Edinburgh. *The Scots Magazine*, vxii, 126-129.

Anonymous. (1756, January). The determination of the premiums given by the Edinburgh society. *The Scots Magazine*, xviii, 48-50.

Anonymous. (1756, February). The premiums to be given by the Edinburgh Society. *The Scots Magazine*, xviii, 105-108.

Bayne, W. (1903). *Sir David Wilkie R.A.* London: The Walter Scott Publishing.

Boswell, J. (1833). *The Life of Samuel Johnson, LL.D. including a Journal of a Tour to the Hebrides*, New York: George Dearborn. (Original work published 1791)

Brookes, P. (1989). *The Trustees' Academy, Edinburgh — 1760-1801: The public patronage of art and design in the Scottish Enlightenment* (Unpublished doctoral dissertation). Syracuse University, Syracuse, USA.

Elliot, G. (1752: August). Proposals for carrying on certain public works in the city of EDINBURGH, *The Scots Magazine*, 14, 370-80.

Ferguson, A. (1966). *An Essay on the History of Civil Society*. D. Forbes (Ed.). Edinburgh: Edinburgh University Press. (Original work published 1767).

Hume, D. (1757). Of the Standard of Taste. In T. H. Green and T. H. Grose (Eds.), *The Philosophical Works*

(Vol. 3, 266-284). Aalen: Scientia Verlag, 1964.
Mason, J. (1949). The Edinburgh School of Design. *The Book of the Old Edinburgh Club*, 27, 67-96.
Minutes of the Board of Manufactures. (1786, January 23). The minutes of the board meeting on 23 January 1786 (NG 1/1/25, Historical Search Room, National Records of Scotland, Edinburgh), 104-115.
Phillipson, N. T. (1970). Scottish Public Opinion and the Union in the Age of the Association. In N. T. Phillipson and R. Mitchison (Eds.), *Scotland in the Age of Improvement: Essays in Scottish History in the Eighteenth Century* (125-147). Edinburgh: Edinburgh University Press.
Smollett, T. (1998). *The Expedition of Humphry Clinker*. L. M. Knapp (Ed.). Oxford: Oxford University Press. (Original work published 1771).
Wedderburn, A. (1755, July 1). Preface. *Edinburgh Review*, 1, pp. i-iv.

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Teaching Art to the Working Class: John Ruskin and the Meaning of "Practical" Art

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Abstract

The middle of the nineteenth century saw the burgeoning of various educational institutions for the working class. The precursor of these was the Working Men's College which opened in October 1854. Before its opening, to their delightful surprise, Victorian art critic, John Ruskin, offered his teaching Drawing class. The College's opening coincided with an interest in applying practical art and design to manufacturing, which had led the government to establish educational schemes and schools for art. First, the Normal School of Design in London was opened in 1837. And after the Great Exhibition, the Department of Practical Art of the Board of Trade was established in 1852. Ruskin protested against their educational schemes to connect art directly with manufacturing, and their idea that some limited pedagogy could teach students good design. Consequently, his teaching at the Working Men's College gave him a great opportunity to propose and put into practice his criticism against the government's art education. This paper will investigate the meaning of teaching "art" to and for the working class in relation to "practical" art, focusing on Ruskin's teaching at the Working Men's College and the influence of his teaching.

Keyword: Working Men's College, John Ruskin, South Kensington System, Practical Art

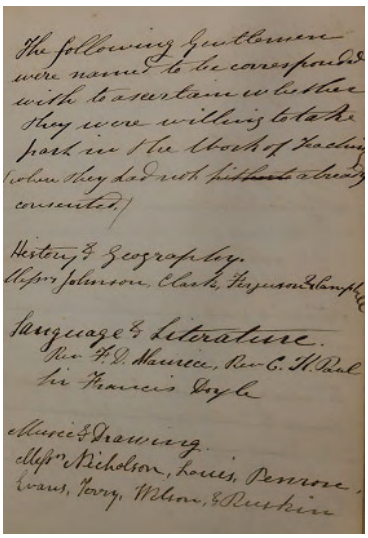
Introduction

Reform in elementary education was juxtaposed with the implementation of the long-discussed idea of adult education. The middle of the nineteenth century saw the establishment of various educational movements and institutions for the adult working class, such as the University Extension Movement, the Working Men's College (1854), Ruskin College (1899), and later, the Workers' Educational Association (1903). The purpose of their activities was to provide working class people with the systematic and full-fledged curriculum of higher education which, so far, had been allowed only to the privileged class. This educational system should be distinguished from sporadic lectures held in mechanics' institutes, or public educational schemes to nurture professional workers. Interest in applying practical art and design to manufacturing had already led the country to open the Normal School of Design in London in 1837. And after the Great Exhibition, the Department of Practical Art of the Board of Trade was established at Marlborough House in 1852 under the leadership of Henry Cole and Richard Redgrave. Their scheme was called the "South Kensington System" and remained influential until the beginning of the twentieth century. Art teaching in the aforesaid working class educational institutions was destined to seek out its position and contents in the curriculum for the working class, and the meaning of the study of art in its relation to industry had been a major issue. This paper will look at the early days of art teaching at the Working Men's College, which was conducted by John Ruskin as its central figure, and its relation to practical art education promoted by the government.

Art Teaching at the Working Men's College

The Opening of the Working Men's College

The idea of establishing the Working Men's College began with a series of meetings first organised by a Lincoln's Inn barrister, John Malcolm Ludlow. Ludlow was inspired by the Paris February Revolution in 1848 to think about the privileged class' duty to the poor. The newly-appointed Chaplain of Lincoln's Inn, and a Christian Socialist, Frederick Denison Maurice soon joined Ludlow, and they started the meeting in 1849. Soon others such as Charles Kingsley, Thomas Hughes, and Frederick James Furnivall attended a series of meetings, and they launched such educational activities as the opening of an infants' school during the daytime and teaching boys and men at night. Furnivall confessed that "[f]ew of us had any idea of the wide-spread misery in the workmen's homes around us, and fewer still knew how the slop-system had been at work lowering wages, destroying the honourable trade, and forcing women and children into their fathers' work" (Furnivall, 1860a, p. 145). In order to create a Working Men's Association, they asked for the cooperation of a chartist tailor, Walter Cooper. Thus, they formed the Society for Promoting Working Men's Associations and built the Hall of Association where classes and lectures were offered to working men and women. These activities led to the foundation of the Working Men's College (WMC). First they formed the Committee of Teaching and Publication with Maurice as its President.


The following Gentlemen
were named to be corresponded
with to ascertain whether
they were willing to take
part in the block of Teaching
(when they had not ~~previously~~ already
consented)

History & Geography.
Messrs Johnson, Clark, Hayman & Hamp[illegible]

Language & Literature.
Rev. F. D. Maurice, Rev. C. H. Paul
Sir Francis Doyle

Music & Drawing.
Messrs Nicholson, Louis, Penrose,
Evans, Terry, Wilson, & Ruskin

Fig.1 From the *Minutes of Meetings in Relation to the College for Working Men*. May 1854 (no exact date)

On February 7th, 1854, Maurice submitted a 12-page printed statement outlining the plan for the new College. The statement contained the following points: that the College put "*human* studies as the primary part of our education"; that "we were not bound to confine our education to our own associates, but that we should promote their interest better if we produced a scheme which should be available for the working classes generally"; that "the education should be regular and organic, not taking the form of mere miscellaneous lectures, or even of classes not related to each other"; that "the teachers, and, by degrees, the pupils, should form an organic body, so that the name of College should be at least as applicable to our institution"; and that "the College should, in some sense or other, immediately or ultimately, be self-governed and self-supported" (Furnivall, 1860a, p. 146).

Based on Maurice's statement, they planned out the curriculum. According to the minutes of meetings starting in May 1854, they had already discussed which subjects to offer and had corresponded with several people asking them to take part in teaching. Music and Drawing had been already listed as the proposed subjects. Each subject had several names of probable instructors who "were willing to take part in the block of teaching" listed. For Music and Drawing, we encounter the names of Nicholson, Louis, Penrose, Evans, Terry, Wilson, "& Ruskin" as seen in *[Fig. 1]*. Interestingly Ruskin's name seems to have been added later on the minutes, probably after they received his offer to teach at the College.

It would appear that the Committee never asked Ruskin to take up their Drawing class, or rather, they had never expected Ruskin, the renowned art critic who had already published *Modern Painters* I and II, *The Seven Lamps of Architecture* and *The Stones of Venice* I, II, and III, to join their teaching staff. Furnivall, who had already developed a friendship with Ruskin, sent the Circular hoping to get his subscription, and it was no doubt a delightful surprise that Ruskin proposed to teach a Drawing class at the College. It is uncertain when and how Ruskin sent his offer to Furnivall, but the minutes recorded that he attended the first Council of Teachers held on October 28th.

Not only did Ruskin join the teaching staff, he also willingly let the College use his writings to generate publicity. On Oct. 30th, a day before the opening, the guests who attended the full meeting of the College were handed a copy of the chapter "On the Nature of Gothic," a eulogy of working men and their creativity, from Volume Two of *The Stones of Venice*, as an introduction of sorts to the College's ideals. Furnivall (1860b) recollected:

> As our visitors came up the stairs, each received a copy of Mr. Ruskin's eloquent and noble chapter on the Nature of Gothic Architecture, *and herein of the Functions of the Workman in Art*, which he and his publishers kindly allowed me to reprint, for the purpose of showing what sort of fellow one of our Teachers was. (p.168; emphasis in original)

Thus the Working Men's College was officially opened on the following day, the 31st of October.

John Ruskin and Art Classes at the Working Men's College

Both Music and Drawing classes had been previously arranged for Wednesdays according to a meeting in May 1854. But the class schedule for the First Term (November to Christmas, 1854) shows that Ruskin taught Drawing class on Thursday from 7 to 9 o'clock in the evening but Music class was not on the list.

According to a Ruskin's biographer, Tim Hilton (2002), Ruskin's motive of teaching Drawing at the WMC might have been personal. Hilton asserts that Ruskin liked to "work quietly at an elementary level, far from public renown" (p. 204). While his position as an art critic became firmly established with a series of writings on art and architecture, he was also facing a private crisis at the time. In July 1854, a judge declared the marriage of Ruskin and Effie to be nulled and their marriage virtually came to an end. Ruskin sent several letters to Furnivall around this time on this matter. Ruskin's interest in the Working Men's College suggested that he needed to turn a new page in his life.

It is believed that Ruskin was distant from the principal, F. D. Maurice. Maurice had a different religious viewpoint from that of Ruskin and was likely to be indifferent about teaching art. Furnivall mentioned that the French class and the Drawing class had attracted the most students in the series of lectures and classes held at the Hall of Association (Furnivall, 1860a, p. 145), and it can be concluded that Drawing was incorporated into the curriculum for its probable popularity and appeal to the future students.

In one of the earlier addresses to the WMC students, however, Maurice (1859) named "Art" as the foremost subject working men should study, admitting his ignorance in this field and the difficulty of including this subject in the curriculum, as follows:

> With which of our studies, then, do I propose to begin? Some of my friends on the Council, in trying to lay down a chart of our studies, found *Art* the province which it was most difficult to include, or at least to assign to its proper latitude and longitude. Now, from my point of view, Art presents itself before other topics. Why? Because I am considering what each study has to do with *you*, how it comes into contact with *your* life. Now the words *Artisan, Artificer, Artist*, may be very distinct indeed. But they must have some close connection with each other, and it must be very desirable to trace out that connection, even for the purpose of finding out the difference. From this point, then, I should take my start. (p. 6; emphases in original)

Here notice should be taken not only of the fact that Maurice praised the importance of Art in the College's education, but also of the role of studying art that he advocates; that art should

enable the students to trace out their own identity as working men. Based on the defining of "Art" as skill in the practical application of knowledge or learning, his remark has close affinity with the government educational scheme regarding art.

Interest in applying practical art and design to manufacturing led the country in 1837 to establish and sponsor the Normal School of Design in London, a vocational training school for improving the design of British commodities. They also ran provincial centres with local institutions. The successful Great Exhibition in 1851 led to both the founding of the Department of Practical Art of the Board of Trade at Marlborough House and the construction of the Museum of Ornamental Manufactures (which later became the Victoria and Albert Museum) in the following year. In 1853, the Department of Science and Art was established. The central figures in these activities were Henry Cole and Richard Redgrave, who tried to enact an educational system to nurture art masters who could teach at elementary schools. Consequently, they created the "National Course of Instruction," which was the official art training scheme. With this, elementary drawing examinations were introduced into public day schools.

The "National Course of Instruction" was eventually known as the South Kensington System, since the Department of Science and Art moved from Marlborough House to South Kensington in 1857. It was a rigid, mechanistic course emphasising hand skills for purely utilitarian purposes. It followed printed examples of "flat diagrams in hard outlines" which was copied by the students diligently and, instead of natural objects, they used ornamental casts. There were 23 Stages of Instructions and sometimes about half of the students stopped at Stage 2 and couldn't go beyond that (Haslam, 2005, p. 145). It was "self-financing as well as self-perpetuating through an elaborate system of competitions, prizes, examinations, and payment by results" (Hewison, 1996, p. 10).

It is clear that some of the students who took Drawing classes at the WMC had been taught under the government system (Hewison, p. 9), and the original plan of the WMC had been to keep its tie with the Government Schools. The biggest reason for that seems to have been the lack of equipment necessary for conducting Drawing classes. The minutes of a meeting dated June 6th recorded a suggestion for the class. It reads "Mr. Dickinson [Lowes Dickinson] suggested that the students in Drawing be remitted to the Government Schools of Design in order to avail themselves of the appliances there existing for the prosecution of such studies" (*Minutes*, 1854-1855).

For the WMC, having Ruskin as a teacher not only raised the reputation of the College, but also solved the problem of appliances and facilities. Joining the faculty, Ruskin provided the College with specially made high-quality drawing paper, easels, and all sorts of materials. Furthermore, he made arrangements for a third-floor studio with two small rooms knocked into one to be available to students who would like to draw or study during their free time (Haslam, p. 149). Ruskin's role at the College was not limited to teaching; he was also one of its major benefactors. For example, he donated to the library a variety of books of all genres including quite a few volumes of art books, and to the College Museum a collection of minerals, including the beautiful set of Alpine specimens, which might have been used in his Drawing class.

For the Second Term, starting January 9th, Lowes Dickinson and Dante Gabriel Rossetti

CLASSES	1st Term.	2d Term.	3d Term.	4th Term.	5th Term.
Politics	8	5	12	9	15
Law	4	4	3	...	5
Geography and History of England	9	4	8	10	17
English Poets, (Shakespeare, &c.)	12	8	17	13	16
Drawing	33	40	43	48	48
Modelling	...	...	...	15	6
Natural Philosophy and Astronomy	14	...	...	...	...
Mechanics	6	...	...	...	...
Structure and Functions of Human Body	3	3	4	...	...
Chemistry	...	...	...	12	10
Physical Geography	...	...	3	8	7
On the Microscope (an Occasional Course)	...	...	...	22	...
Algebra	46	27	24	16	25
Geometry	21	11	25	13	18
Trigonometry	...	...	...	...	5
English Grammar	42	26	20	23	35
Structure and Derivation of English Words	...	4	1	7	7
French	...	40	42	35	83
Latin	...	29	20	26	43
Greek	...	...	...	...	4
English (for Foreigners)	...	...	...	8	...
Aggregate number attending Classes	145	155	158	174	233

Fig.2 Table of the students enrolled in the first five terms at the Working Men's College

joined Ruskin in teaching Drawing. In the end of January Rossetti separately started the Monday class of the Figure Drawing (later, the class schedule for the Fourth Term reads "Drawing [*The Figure,—after Nature, and Casts from Nature.*]") while Ruskin and Dickinson taught Elementary and Landscape Drawing. In the Fourth Term Modelling classes were added on Tuesdays taught by Thomas Woolner and on Fridays by Alexander Munro, both of whom were affiliated to Pre-Raphaelite Movement (with Woolner as its original member) and close to Rossetti. Rossetti recommended Woolner and Munro to the College and the popularity of the Drawing classes probably paved the way for inserting this new field of art into the curriculum. In the earlier days of the College, the Drawing classes were not offered during summer since Ruskin and other teachers were out of town. Still, Drawing and Modelling rooms were open every night and the class schedule tells that "the Teachers may attend the Drawing-classes on Thursdays [Ruskin and Dickinson's], and the Modelling-classes on Tuesdays [Woolner's], if they are in town, but no attendance of Teachers is guaranteed." This suggests how enthusiastic Ruskin was about teaching at the College. In the Second Term of the Second Year, Thursday's class was divided into Dickinson's on Tuesdays and Ruskin's on Thursdays. According to Robert Hewison (1996), Ruskin taught only the beginners, "some of whom had no knowledge of

drawing at all, and he set only very basic exercises in black and white" (p. 8). After the students acquired some confidence and competence, they were to be taught by Dickinson and then sent to Rossetti, who introduced colour and taught figure drawing.

No doubt those art classes were very popular among the students. Maurice mentioned in the *First Annual Report* (1855) that "[n]o classes have been more successful than those on Drawing; in none has the progress of the pupils been more marked" (p. 3). The table showing the number of students enrolled in the first five terms proves their popularity (Maurice, *First Annual Report*, p.3).

Although Modelling classes had just started, there was the anticipation that they would gain more popularity. Ruskin, however, did not welcome this prospect. Furnivall (1860c) recollected as follows:

> In the fourth Term, Modelling was introduced among our art-students, and was taught by Mr. Munro and Mr. Woolner, the one as noted for the grace and loveliness of his sculptures as the other for the vigour and character of his. The kitchens at the College were turned into modelling-rooms, men appeared smudged with white clay, and the class went on well for a few Terms; but it made so many of the Drawing Class pupils lazy at their drawing, that Mr. Ruskin told them they must either draw or model,--they had shown him they had not time for both; soon after which the Modelling Class collapsed. (p. 189)

This anecdote presents further proof how serious Ruskin was about his teaching. After the Modelling class was dropped from the curriculum in the Second Term of the Fourth Year, 1858, however, Woolner and Munro both stayed on the Council of Teachers, probably voluntarily helping those who would like to pursue their interest in modelling.

Going against "South Kensington"

Drawing for Looking Properly

The fact that Ruskin was strongly against the South Kensington System is well-known. Drawing classes at the WMC presented a great opportunity for him to practically express his criticism against the government-led utilitarian art education as well as to propagate his teaching among the underprivileged. First, he virtually cut the College's tie, which had been originally proposed by Dickinson, with the Government Schools of Design, by arranging the facilities and equipping appliances he believed to be the proper tools for art teaching.

Second, the skill of drawing was, for Ruskin, to develop "Sight," or the perception to look at things properly. With this ability, "we can see things as they are" (Ruskin, 1905/1858, p.180). His purpose was not to turn working men into professional artists or designers. Rather, he believed that everybody should learn how to draw in order to perceive our environment correctly and by doing so enrich his or her life. In his speech to new students at the WMC in 1860, Ruskin is recorded as having remarked as follows:

> My own class, he said, has the special characteristic of being, in common phrase, the most *useless* of any in the College: none bears less immediately on practical life. But the true use of learning to draw is that it refines and increases the pleasure we take in looking at common things. The root of all healthy life is not the desire to change one's circumstances, but the power of getting the greatest amount of enjoyment out of the circumstances one is in. The power is increased by anything which increases our perception of what is beautiful, and here the Drawing Class tells. ("News," 1860b, pp. 177-178; emphasis in original)

His art teaching was part of "liberal" education and intended not only for students in the WMC, but for the general public, and is something that remains pertinent even today.

In his book *The Elements of Drawing* written based on his teaching at the WMC, he condemned how the Government Schools of Design, where students copied from flat diagrams with hard outlines, and used ornamental casts for their study tools, were "all too much in the habit of confusing art as *applied* to manufacture, with manufacture itself" (emphasis in original). Good design cannot be created by merely copying or imitating good design. "Obtain first the best work you can, and the ablest hands, irrespective of any consideration of economy or facility of production" (Ruskin, 1904/1857, p. 12). In Ruskin's class, students were made to draw from natural objects, not two-dimensional model examples. And instead of starting with an outline, which was the approach taken in South Kensington, Ruskin made students first pay attention to local colour and shade. We can imagine how students who had become accustomed to copying from flat diagrams were perplexed by Ruskin's first exercise of drawing a white leather ball suspended by string. In this way, students were intended to learn that adding shade gave the appearance of projection.

Against Competition

In addition, Ruskin did not believe in having any rigid rules. He paid special attention to each student's ability and strength. Consequently, he was against the elements of competition and examination which were incorporated into the South Kensington System. In another talk to the students, Ruskin explained why Drawing class should be distinguished from the rest of the College classes in its management:

> Referring to the examinations which are to be held on other subjects, [Ruskin] said that nothing of the kind could be attempted in his class; that any sort of competition in art-work was invariably pernicious, leading men to strive for *effect* instead of truth. It was impossible, moreover, for a teacher to be sure that in his own instructions he did not give an advantage to one student over another; he found it, he said, impossible to conquer the temptation to bestow most help on those whom he saw making the most use of what he taught them. This kind of premium was the only thing in the shape of a prize which could find its way into the Drawing Class. ("News," 1860a, p. 67; emphasis in original)

Some of those who made "the most use of what he taught them," such as William Ward, George Allen, and J. P. Emslie, eventually became artists themselves and helped Ruskin in his publica-

tions as well as teaching Drawing classes at the WMC.

This argument should be developed in the broader contexts of national art education with its goal to improve the design of British commodities to compete in the international market. When a parliamentary committee examined Maurice and Ruskin, there arose a lively discussion concerning the effects of competition between foreign and English workmen, as well as the relative positions of workmen in England and other countries. Based on his experience in the WMC, Ruskin answered the questions posed by the committee. To the question: "It is your conviction that we may look at this vast extension of trade and commerce and competition, altogether as an evil?" His answer went: "Not on the vast extension of trade, but on the vast extension of the struggle of man with man, instead of the principle of help of man by man." And to the next question: "You did not intend to cast a slur upon the idea of competition?" Ruskin emphatically answered: "Yes, very distinctly. I intended not only to cast a slur, but to express my excessive horror of the principle of competition, in every way" ("Art instruction for the people," 1860, p. 130). His abhorrence of the teaching of "practical art" was founded not only on aesthetical and educational motives but also on his criticism of national capitalistic intentions.

> The entry for April 9th, 1856, of the minutes of meetings reads as follows:
> A letter was read from Mr Edward J. Elliot offering to teach a class gratuitously on two evenings in the week the elements of Architecture & Civil Engineering—and also a letter from Mr Ruskin in reply to a letter from the secretary, stating that he thought if Mr Eliot [*sic*] consented to say nothing about design the offer should be accepted.
> The Secretary was instructed to express the thanks of the Council to Mr. Elliot for the offer of his services and to state that there were so many points to be considered in introducing a new subject of study into the College that they were unable to return an immediate answer. (*Minutes*, emphasis in original)

Ruskin's condition that Mr Elliot "say nothing about design" can be easily understood based on the premise of his criticism of practical art education. The College must have also inferred what Ruskin insinuated and the name of Mr Elliot never featured in the class schedules.

After the Working Men's College

Drawing classes had thrived receiving Edward Burne-Jones, Ford Madox Brown, Val Prinsep, W. Cave Thomas, and Arthur Hughes as instructors. Nevertheless, fundamental changes had been taking place. Ruskin taught classes regularly until May 1858 and then intermittently until 1862. Eventually, Ruskin's classes were taken over by Ward, Allen, and other former students "under the direction of John Ruskin, Esq. M.A. Oxon." And yet, Ruskin continued his relationship with the College and gave several lectures there.

Probably the true end of his connection with the College came in the Fourth Term of the Sixteenth Year (from May 23rd to July 23rd, 1870) when the "Water colour, Ornament and Perspective Class" was to take place. In October 1871, the "Ornament and Architectural Drawing" class started and the class schedule in October 1877 has a notice stating that the College Art classes "will attend the Examinations of the Science and Art Department," marking the WMC's joining of the government scheme.

By then Ruskin had also started a new project involving art education. In 1869, he was elected as the first Slade Professor of Fine Art at Oxford, and in 1871 he opened the Ruskin School of Drawing (now the Ruskin School of Art) in Oxford. He strongly believed drawing should be an essential part of his university teaching because "practical skill" should go hand in hand with aesthetic theory.

Conclusion: "Drawing Changes Lives"

Stuart Macdonald (1970/2004) asserts that "[Ruskin's] view had little influence upon the official courses in Schools of Art and public day schools"(p. 265), and Ray Haslam (2005) has admitted that "Ruskin's contribution to the development of art education in Britain, especially to practical studies, has tended to become obscured" (p. 145). Nonetheless, Haslam emphasises the complexity and diffusion of his influence even in the contemporary art education (p.157). One example is the Big Draw (formally The Campaign for Drawing), which is a millennium offspring of Ruskin's concept of art education. With the motto "Drawing Changes Lives," they maintain that "[b]y developing this skill we gain a deeper understanding of our surroundings and learn a truly universal language" (http://thebigdraw.org/drawing-changes-lives). Here we can hear a clear echo of Ruskin's belief that drawing enables us to look and understand our environment correctly. And also we can see another aspect of drawing; a tool to communicate with others and be a part of community. It offers yet further proof of how Ruskin's influence has been diffusive.

References

Art instruction for the people: Mr. Ruskin's evidence before a parliamentary committee. (1860, August 1). *The Working Men's College Magazine*, *2*(20), 129-130.

The Big Draw. (2017). *Drawing Changes Lives*. Retrieved July 7, 2017, from The Big Draw Web site. http://thebigdraw.org/drawing-changes-lives.

Furnivall, F. J. (1860a, September 1). History of the London Working Men's College. *The Working Men's College Magazine*, *2*(21), 144-148.

Furnivall, F. J. (1860b, November 1). History of the London Working Men's College (continued from page 148). *The Working Men's College Magazine*, *2*(23), 165-170.

Furnivall, F. J. (1860c, December 1). History of the London Working Men's College (continued from page 170). *The Working Men's College Magazine*, *2*(24), 188-192.

Haslam, R. (2005). Looking, drawing and learning with John Ruskin at the Working Men's College. In M. Romans (Ed.), *Histories of Art and Design Education* (pp. 145-159). Bristol: Intellect Books.

Hewison, R. (1996). *Ruskin and Oxford: The Art of Education*. Oxford: Clarendon Press.

Hilton, T. (2002). *John Ruskin*. New Haven and London: Yale University Press.

Macdonald, S. (2004). *The History and Philosophy of Art Education*. Cambridge: The Lutterworth Press. (Original work published 1970).

Maurice, F. D. (1855). *The Working Men's College* [*First Annual Report*]. London: Working Men's College.

Maurice, F. D. (1859, January 1). Introductory lecture on the studies of the (London) Working Men's College.

The Working Men's College Magazine, *1*(1), 1-8.
News. (1860a, April 1). *The Working Men's College Magazine*, *2*(16), 66-69.
News. (1860b, November 1). *The Working Men's College Magazine*, *2*(23), 175-178.
Ruskin, J. (1904). *The Elements of Drawing*. In E. T. Cook & A. Wedderburn (Eds.), *The Works of John Ruskin* (Vol. 15, pp. 1-228). London: George Allen; New York: Longmans, Green, and Co. (Original work published 1857).
Ruskin, J. (1905). *Inaugural Address at the Cambridge School of Art*. In E. T. Cook & A. Wedderburn (Eds.), *The Works of John Ruskin* (Vol. 16, pp. 171-201). London: George Allen; New York: Longmans, Green, and Co. (Original work published 1858).
The Working Men's College. (1854-1855). *Minutes of Meetings in Relation to the College for Working Men, 31 Red Lion Square, 1854 (May 1854 to May 1855)* (LMA/4535/B/01/01/001). London: London Metropolitan Archives.

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Chiaki Yokoyama is a Professor at the Faculty of Law, Keio University (Japan). Her research interest lies in Victorian England, especially in its social thoughts. She currently researches into the education of the Victorian working class and the inter-relationship between art and community starting in the Victorian era. Her publications include "Sons in Whitechapel: East End and Modern Art" in Haruhiko Fujita (ed.) *Geijyutsu to Fukushi* [*Art and Welfare*] (2009) and "Anatomical Drawings as Gender Representation" in Aeka Ishihara (ed.) *Umu Shin'tai o Egaku: Doitsu, Igirisu no Kindai-San'kai to Kaibōzu* [*Drawing Impregnated Bodies: Modern Gynaecology and Anatomical Drawings in Germany, England and Scotland*] (2010). She has also published Japanese translations of *A Dream of John Ball* by William Morris and *Ruskin* by George P. Landow.

An Open Design Theory for Society: From Oskar Hansen's "Open Form" to Grzegorz Kowalski's "Common Space, Private Space"

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Abstract

In this paper I will discuss the "Open Form" theory advocated by the Polish architect, designer, and sculptor Oskar Hansen, and a theory based on Hansen's ideas called "common space, private space," which was developed by Grzegorz Kowalski, a professor at the Academy of Fine Arts, Warsaw. Kowalski's studio, called Kowalnia[1], has produced many students that went on to successful international art careers. I will also discuss the design theory passed down by Kowalnia and other didactics.

Hansen's innovative "Open Form" concept was opposed to much of the architecture that was prevalent at the beginning of 20th century. It was based on predetermined "closed forms," and envisioned imaginary residents occupying a building. Hansen's presented a new, unprecedented model, which focused on the needs and desires of individuals within groups based on "open forms" that incorporated people's opinions and gradually changed according to various events and shifts[2]. Recognizing that there is no such thing as an expert architect versed in all fields, the "Open Form" theory proposed that the essential guiding force behind architecture ought to be the active and organic involvement of its users. This theory was expanded beyond architecture, and applied to all aspects of art theory[3].

Keyword: Design theory, Open Form, Contemporary Art, Poland, Participation, Community

1) The Polish word for a blacksmith is *kowal*, and *kowalnia* means a smithy.

2) After the demise in 1959 of CIAM (the International Congresses of Modern Architecture), the conferences that stood at the forefront of modernist architecture, last actually convened in 1956, Team 10 emerged, consisting of young CIAM alumni. Hansen was one of the Polish members of Team 10, which engaged in mutual exchange and had a wide-ranging influence on young architects of the day. Kurokawa Kisho and Kikutake Kiyonori in Japan were also in line with these trends, presenting the manifesto Metabolism 1960: Proposals for a New Urbanism at the World Design Conference in 1960. "Metabolism" originally refers to an organic process, but at the time, against a backdrop of dramatic economic growth, cities were rapidly developing and there was a need to deal with their expansion, and Metabolism proposed doing so by applying the principles of organic life to large-scale urban planning that would underpin the future of society. Although the plans for a growing, metabolizing megalopolis were too huge to see realization, the significance and importance of the ideas continues to be recognized over half a century later, and are enjoying a reappraisal today. Hansen also proposed a grand urban plan that called for zoning the entirety of Poland, but this also was too radical to be put into practice. However, his thoughts and stances went on to influence many artists afterward, and interest in him and his partner Zofia Hansen is also enjoying a renaissance.

3) cf. Oskar Hansen, Zofia Hansen, "The Open Form in Architecture – The Art of the Great Number," in *Oskar Hansen: Opening Modernism*, Muzeum Sztuki Nowoczesnej w Warszawie Books No8, 2014, pp.7-9.

Introduction

In this paper I will discuss the "Open Form" theory advocated by the Polish architect, designer, and sculptor Oskar Hansen, and a theory based on Hansen's ideas called "common space, private space," which was developed by Grzegorz Kowalski, a professor at the Academy of Fine Arts, Warsaw. Kowalski's studio, called Kowalnia[4], has produced many students that went on to successful international art careers. I will also discuss the design theory passed down by Kowalnia and other didactics.

The Didactics of Oskar Hansen

Oskar Nikolai Hansen was born in 1922 in Helsinki. His father was a Norwegian with Polish roots and his mother was Russian. He settled in Vilnius with his family in 1923. During the Second World War, Hansen was an active member of the underground Polish Home Army (AK). He moved to Poland in 1945 and started studying at Warsaw University's Faculty of Architecture in Lublin. He got scholarship from French government and studied in Paris from 1948 to 1950. During his stay in Paris he worked at the studios of Fernand Leger and Pierre Jeanneret, cousin of Le Corbusier. He also met with outstanding artists, including Pablo Picasso. In 1949 he took part in the International Congress of Modern Architecture in Bergamo, where he criticized Le Corbusier for going commercial by designing textiles instead of cities. Then he received an invitation to the CIAM international summer school in London in the same year, and visited Henry Moor's studio. In 1950 Hansen returned to Warsaw and Jerzy Sołtan, whom he met in Paris, asked him to be an assistant in the Faculty of Interior Design at the Warsaw Academy of Fine Arts (ASP). From 1952 he created his own curriculum as part of the Solids and Planes Studio (initially at the Faculty of Interior Design under Sołtan), and from 1955 he did the same at the Faculty of Sculpture. In 1981 he succeeded the Interdepartmental Faculty of Integrated Fine Arts at the Warsaw ASP, and in 1983 he retired.

Hansen's predecessor was Wojciech Jastrzebowski(1884-1963), who taught the Composition of Solids and Planes in the prewar academy. After the war he was the professor in the Warsaw Academy of Fine Arts, Faculty of Interior Design, and cofounder of the Institute of Industrial Design. Hansen and Jastrzebowski both taught a visual language which students could use. We can find many similarities in their didactics. For example, Hansen's "Single-Profile-Composition" would have relation to Jastrzebowski's "Single-Silhouette-Composition." In one of Hansen's late 1950's practices, students were required to "compose any profile, for example earthenware, interior, terrain section or abstract[5]." In such way Hansen tried to encourage students to think more abstractly and creatively. For example, in the case of the apparatus for "Rhythms" the students created "see-through clearances," framing the image of surroundings by shifting black-and-white slabs. Hansen wrote that "the keyboard device was easily operated, permitting the

4)————The Polish word for a blacksmith is *kowal*, and *kowalnia* means a smithy.
5)————ibid. p.262.

student to emotionally create uni- and multisequential rhythms and their(photographically) the successive phase, facilitating more detailed problematization[6]."

Hansen wrote his Open Form Manifesto[7]in 1959 and presented "Open Form in Architecture"[8]at the CIAM congress in Otterlo in the same year. According to him, Open Form is "a composition of spatial sub-text - it will become a multi-layered phenomenon, constantly alive" and "the conventions of the open composition will imply the activity defined (as) "passe-partout" to the changes taking place in space[9]". We can say that Open Form is a kind of philosophy and decide our attitude towards reality. In this context we would be able to find the similar idea of Constructivism which was realized by Polish avant-garde artists, Katarzyna Kobro and Władysław Strzemiński. Hansen's Open Form applied their idea to society and tried to form its structure. Hansen always stressed the humanistic elements in the architecture.

Workshop of Grzegorz Kowalski

Among Hansen's students was Grzegorz Kowalski (1942-) at the Academy of Fine Arts in Warsaw. Soon after graduating from the Academy in 1965, Kowalski began working there as an assistant to Hansen. He inherited a sculpture studio in the industrial design department from his predecessor, and in the 1980s also took over another sculpture studio in the sculpture department. Kowalski also carried on the legacy of his former professor's "Open Form" concept, which led to his development of his own practices termed "Common Space, Private Space" (known by the acronym OWOW, for the Polish *Obszar Wspólny, Obszar Własny*)[10]. Kowalski implemented these practices at the studio of the Academy of Fine Arts in Warsaw beginning in the mid-1980s. The students and the instructor were seen as having equal rights, and engaged in a communication process using not words but visual signals, gestures, and other nonverbal means. Each of the participants had a defined "private space" of his or her own, and also engaged with the "common space" shared by all. The course of the process was not determined in advance, but depended on the joint creativity of the participants, which all recognized and mutually supported while carrying out a process of alternating actions and reactions. This creative process was not directed towards some final goal, but rather a vibrant process of communication itself was emphasized. Participants also agreed in advance not to engage in destructive activities[11].

"Common Space, Private Space" was carried out for the first time during the semester

6)————ibid. p.266.
7)————Oskar Hansen, "Forma Otwarta", Przeglad Kulturalny, vol 5, no.5, 1959, p.5.
8)————Oskar Hansen, Zofia Hansen, "The Open Form in Architecture – the Art of the Great Number," in *CIAM'59*, Karl Kramer Verlag, 1961, pp.190-191.
9)————Oskar Hansen, "Forma Otwarta".
10)————cf. Grzegorz Kowalski, Obszar wspólny i własny (Common Space, Private Space), *Open Form, Space, interaction, and the Tradition of Oskar Hansen*, Sternberg Press, 2014, pp.114-115, Karol Sienkiewicz, Wszystko, co chcielibyście wiedzieć o "Obszarze Wspólnym, Obszarze Własnym," in *Obszar Wspólny, Obszar Własny*, Instytut Teatralny im. Zbigniewa Raszewskiego, 2011.
11)————Sienkiewicz, ibid. pp.48-58.

spanning 1981-82, in the industrial design department of the Academy of Fine Arts in Warsaw. In 1980, Poland had been swept by surging calls for democratization, sparked by large-scale demonstrations at the Gdańsk shipyards and centered around Lech Wałęsa and the organizing of the independent self-governing trade union Solidarity, but the following year, 1981, Jaruzelski became the prime minister and concurrently First Secretary of the Communist party, and declared martial law throughout Poland on December 13 of that year. Tensions were at a boiling point. As university classes were suspended along with the declaration of martial law, the implementation of "Common Space, Private Space" actually went into practice when classes recommenced in early 1982. The studio functioned as a kind of refuge, isolated from the hostile outside world of political tensions and suppression of free expression, and in Kowalski's words, "We integrated in the atelier against the unpleasant reality of the martial law. Its character was that of a meeting of underground activists, slightly catacombish[12]." In the process of interacting together and ascertaining their positions with respect to one another, the participants learned to keep their egos in check and adopt an attitude of humility. They arrived at the realization that for creativity to work, it must have a receptive audience. An unpredictable creative process is made possible by the presence of the other, who answers actions with reactions, whether these signify acceptance or rejection—the presence of an audience that responds to or transforms these actions.

Artur Żmijewski (1966-) studied at the Academy of Fine Arts in Warsaw from 1990 through 1995, and participated in the activities at Kowalski's studio (known as Kowalnia) beginning in his second year, while Pawel Althamer (1967) was at the Academy from 1988 to 1993, and began jointly exhibiting works with colleauges from Kowalnia starting in 1991. The "Common Space, Private Space" practice at Kowalnia was highly significant, exerting a major influence on the work of many artists who participated. This was dramatically manifested at the first *W Samym Centrum Uwagi / At the Very Centre of Attention* exhibition, held from November to December 2005 at the Center for Contemporary Art, Warsaw. It was the first in a series of eight exhibitions held from November 2005 through July 2006, focusing attention on the work of artists who debuted from 1989 onward in Poland, and aiming to explore the current state of Polish art. Three artists who were alumni of Kowalnia, in other words who had studied under Kowalski at the Academy of Fine Arts in Warsaw, were selected: Żmijewski, Katarzyna Kozyra (born 1963), and Althamer. Kozyra presented a video installation entitled *Punishment and Crime*, while Althamer and Żmijewski served as curators, inviting fellow former Kowalski students who had been at the Academy between 1988 and 1996 to the Center for Contemporary Art, where they replicated the group practice of "Common Space, Private Space" as they had done at Kowalski's studio, in the exhibition *[s]election.pl*. Kowalski himself was also invited to organize the exhibition *Common Space, Private Space: The Kowalski Studio 1989-1994*, which featured extensive photographic, film, and other documentation of the OWOW activities at

12)——Sienkiewicz, ibid. p. 80.

13)——Both *[s]election.pl* and *Common Space, Private Space: The Kowalski Studio 1989-1994* were part of the first exhibition of the series, *At the Very Centre of Attention. W samym centrum uwagi, CZĘŚĆ 1*, Centrum Sztuki Współczesnej na Zamku Ujazdowskim w Warszawie, 3/11 - 18/12/2005.

Kowalnia[13].

Artur Zmijewski and Pawel Althamer

For the *[s]election.pl* exhibition, it was not Kowalski but Althamer and Żmijewski who drew up the framework of activities. These activities, which in the past were carried out in the sealed-off, sheltered, and virtually cocoon-like context of the Academy of Fine Arts studio, were here presented at a public venue and viewable by general audiences, in other words revealed to broader society. The chain of non-verbal communication that unfolded at the Center for Contemporary Art gradually took on a more chaotic air. Each of the artists invited by Althamer and Żmijewski to participate in *[s]election.pl*, all Kowalnia alumni, were in turn free to invite any guests they wanted, and the result was what Żmijewski called "cataclysm" or "the raw ingredients of reality[14]." For example, invitees included kindergarten children, gymnasium students, sex workers from an escort agency hired by Jacek Markiewicz (born 1964), and female students from a beauty school. In particular the kindergarteners were indifferent to the rules of the game, and became purveyors of pure destruction, with the other participants then turning destructive as well. Faced with the destruction of the delicate chain of actions and reactions based on the activities formerly performed in the studio, many of the participants decided to withdraw from *[s]election.pl*, Kowalski himself among them. As described earlier, one of the important, fundamental rules of Kowalski's "Common Space, Private Space" was the prohibition of destructiveness. This was seen as a crucial prerequisite for mindfully maintaining the flow of the communication process. However, Żmijewski believed that if we prohibit destruction, we will be unable to learn about it. He stated that "We repress anger and aggression but obviously they always come back, this time as demons[15]," a point that Kowalski acknowledged to some extent, saying of Żmijewski's endeavor, "You did touch upon the highly important question of taming aggression, the natural urge for destruction and generally on suppressing evil[16]."

At the eleventh "Common Space, Private Space" (2006-2007), all participants had to make film documentation. This made participants into observers and they began to act being aware of the camera. In 2008 the new faculty of media art and stage design had created and Kowalski opened his atelier there.

Conclusion

Influenced by Hansen's "Open Form," the experimental practice of "Common Space, Private Space" that developed at Kowalski's studio in the Academy of Fine Arts was reconnected to society and revitalized as social design theory through the incorporation of elements of the

14)————Sienkiewicz, op. cit., p.114.
15)————Sienkiewicz, loc. cit.
16)————Sienkiewicz, ibid., p.116.

real world based on the new ideas introduced by Żmijewski. This new framework was carried on thereafter. For example, at the "Creating Through Collaboration: Space. Body. Camera" summer master workshops programme for artists[17] held at the Center for Contemporary Art, Ujazdowski Castle, Warsaw in summer 2014, in the first half Kowalski conducted a workshop in the studio, during which participants engaged in nonverbal communication in a space being filmed by a camera, making full use of intuition and imagination, using physical improvisation, and carrying on a chain of action and reaction using visual language. Half of the attendees were Polish and the others from abroad, and the program included a theoretical section, in the form of an evening lecture series in which theorists such as art historians and anthropologists discussed and debated primarily in English. The participants stayed communally in a dormitory provided next to the studio, cooking together, dining, talking, and inspiring one another. During the second half, Żmijewski took on the role of leader, and participants were asked to carry out actions similar to those of the first half, but in public places. These included large shopping centers like IKEA, subway stations, underground passageways, theaters, museums, cemeteries and churches, with the meanings and experiential qualities of the actions varying depending on the location. Here, as well, Żmijewski incorporated elements of reality into the workshop, investigating whether the practice of OWOW remained valid when taken out of the sheltered confines of a laboratory-like environment and pursued in the public sphere[18]. Then engage various activities in society using visual communication based on Open Form theory by Oskar Hansen.

Author biography

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Akiko Kasuya is a Professor at Kyoto City University of Arts. She studied aesthetics at Jagiellonian University, with the Faculty of Philosophy, in the Institute of Aesthetics (Krakow, Poland) from 1989 to 1991. She graduated from the Kyoto University Graduate School of Letters Division of Philosophy Doctoral Program in 1991. She has worked as part of the National Museum of Art, Osaka (NMAO) Curatorial Department from 1991. Her major exhibitions include Art and The Environment (Geijutsu to Kankyo, 1998), Miroslaw Balka—Between Meals (2000), A Second Talk (Ima Hanaso, 2002); Positioning-In the New Reality of Europe (Tenkan Ki no Saho, 2005); Still/Motion: Liquid Crystal Painting (Ekisho Kaiga, 2008); Homage to Kantor – Theater of Death (Shi no Gekijo, 2015); Tatsuno Art Project 2011- etc. Her major publications are *Modern Art in Central Europe (Chuo no Modern Art)*, Sairyusha, 2013. *Contemporary Art of Central Europe (Chuo no Gendai Bijutsu)*, Sairyusya (coauthor), 2014. *Polish Avant-garde Art: Applied Fantasy for Survival (Poland no Zenei Bijutsu)*, Sogensha, 2014.

17) ———— *CREATING THROUGH COLLABORATION. Space. Body. Camera. Summer master workshops programme for artists*, Centre for Contemporary Art, Ujazdowski Castle, Warsaw, 25 08 - 7 09 2013. cf. http://csw.art.pl/index.php?action=aktualnosci&s2=8&id=960&lang=eng. Last accessed on May 1, 2016.

18) ———— Ibid. Also drawn from the lecture by on the afternoon of February 7, 2016 by Anna Dtak at Kyoto City University of Arts Gallery @KCUA.

The Significance of Constructing the Social Model of Craft in Graphic Design History Narrative

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Abstract

Graphic design history, a relatively new academic discipline, needs to reposition its current narrative, which emphasizes formal properties, as future graphic designers are required to understand complex social relations. A new approach blending the social aspects of craft into graphic design education will contribute to shaping the thinking of future design practitioners around a social need. Craft rooted in social interaction has positioned the philosophy of modern craft as a democratic and political activity. This includes William Morris's ideas on social reform and his espousal of crafts as a response to the disorder of the Industrial Revolution. Also, the vernacular, one of the elements in the history of craft referred to by Paul GreenHalgh (1997), could provide another alternative narrative in graphic design history survey courses. Unfortunately, the tie between craft and design has nearly dissolved since design separated from craft in the later nineteenth century (Greenhalgh, 1997). Likewise, the content of survey courses, including *Meggs's History of Graphic Design,* reflects how the concept of graphic design is more loosely tied to craft than it is to fine arts. But, the growing awareness of social design—which has the primary objective of design positively impacting society—implies a need for adding a new perspective to graphic design history survey courses that cultivate ideas about designers'social motivation in practice. In this respect, by adopting aspects of craft emphasizing social value, the narrative of graphic design history would provide design students with the opportunity to consider the influence of designed artifacts on the human condition and society.

Keywords: Graphic design history narrative, Graphic design history education, The social aspects of craft, William Morris, The vernacular, Meggs's History of Graphic Design.

Introduction

Unlike art history, graphic design history has been recognized as an academic field for only three decades, which implies that narrative methods of graphic design history still need to be developed (Clark & Brody, 2009; Dhillon, 2012; Margolin, 2015). Although graphic design shares a vocabulary with the history of art, which uses a developed language and methodologies, designed artifacts should not be limited to being analyzed in only visual terms like fine art pieces. Partially, this is because of the characteristics of graphic design, which is focused on communication, requiring design theory and practice to be aware of a context where complicated social and political situations are involved. This suggests that the history of graphic design surveys needs to understand not only the form of a designed artifact but also the meaning of it in or to society (Aynsley, 1987).

Examining the narratives in survey texts about graphic design history for use in design classrooms would provide an opportunity to understand the past, present, and future of both the visual communication design discipline and practice (Conway, 1987; Huppatz & Lees-Maffei, 2013). The canonization of graphic design works found in the narrative structure indicates what attributes people in the graphic design field should consider for the future. For example, if the graphic canon puts special stress on the aesthetic quality of the piece, design students might be more likely to give weight to the stylistic value of their design works. The attempt to examine the narratives in graphic design survey texts involves challenges due to the ambiguous scope of graphic design because of its loose tie to materials, which makes it unlike other art and design fields (Aynsley, 1987). Technological progress is followed by changes in the social context that continue creating or reshaping both physical artifacts and intangible artifacts (Dhillon, 2012). In the realm of contemporary visual communication, the vast majority of communications are not physical print communications anymore, making way for new intangible digital media such as interaction design that mainly rests on the human perspective in context in order to improve human well-being. The new technological changes suggest the need for alternative narratives to foster social visions that create meaningful values, which would be commonly shared in a community. Authors of graphic design history narratives should help future design theorists and professionals better understand the social roles of graphic design in the world.

In this sense, the craft vision for a better society could align with today's design narratives that attempt to address the social needs of the broader population including minorities. Craft rooted in social interaction has positioned the philosophy of modern craft as a democratic and political activity, reflecting William Morris' ideas on social reform espousing the crafts as an answer to the disorder of the Industrial Revolution in the nineteenth century (Cooke, 2007). The new interdisciplinary approach blending the social model of craft into graphic design history education will contribute to shaping the thinking of future design practitioners toward social need.

The scope and perspectives of graphic design narratives

Since the term graphic design was first introduced by American book and type designer, W.A. Dwiggins, many authors of graphic design history publications have tried to clarify its uncertain boundaries (Dwiggins, 1999; Livingston, 2003). One of the pioneering publications about the field of graphic design history was written by Philip Meggs in 1983 (Meggs, 1983). The so-called "Bible" of graphic design history, *Meggs's History of Graphic Design,* has played a role as a main reference in visual communication design education (Meggs & Purvis, 2016). According to Margolin (2002), it is known for being the first design history to gain notoriety and be used as a text in design history classes. Meggs's history is now considered important in that it significantly helps to define the graphic design discipline as well as serving as a principal reference for teaching. Both roles imply its strong impacts on forming future designers' values and attitudes.

Philip Meggs's scope of description moves from prehistoric times to the current information age, with more than half of the book covering the twentieth century in terms of its aesthetic movements. Meggs and Purvis (2016) advocated the "farsighted view" to define the scope of the subject of graphic design in the survey (Margolin, 2002, p.191). This view stresses human communication that drives the nature of graphic design. This approach extends the narrative comprehensively, incorporating human interactions since prehistoric times. Meggs' farsighted view, however, is more inclined to describe how the visual formation of artifacts is located in technological change and mechanical progress than how it is rooted in human interactions (Margolin, 2002). In the article "Narrative problems of graphic design history," Victor Margolin (2002) argues that the conflation of graphic design history under the "farsighted view" entails the discontinuity between today's design practice and prehistoric communicative actions, because current graphic design professions did not directly grow out of cave wall paintings or early writings on stones (p.191).

The "short-sighted view," on the contrary, supports the idea of graphic design as a new activity that has existed since the outset of the industrial revolution (Margolin, 2002, p.191). The approach describes graphic design as a professional practice, as in Richard Hollis's *Graphic Design: A Concise History* (Barnard, 2005; Hollis, 2002; Margolin, 2002). The description of graphic design as a profession involves the institutionalization of a canon adhering to high standards of quality, which could cause the exclusion of some graphic design practitioners (Margolin, 2002). This brings controversies surrounding the position of the vernacular artifacts made by nonprofessionals in graphic design history (Margolin, 2002).

Even though vernacularism is a visual communication method that is sometimes employed by professional designers, only a few graphic design narratives delve into the beneficial connection between design and the vernacular (Margolin, 2002). For example, Tibor Kalman, an influential graphic designer during the mid 1980s is well known for his vernacular design based on his sense of localism, which was mainly generated by the general public, and not much by professional designers. However, in graphic design narratives, examples of the connection between design and the vernacular mostly resort to demonstrating vernacular design as a part of stylistic expression related to the nostalgic retro look. This needs to changed, because ver-

nacular expression by ordinary people has become common in new media that engages participatory culture (Howard, 2008). It suggests that a shift positioning vernacular creativity in graphic design narratives is necessary in the current design context, which will require an understanding of collaborative social interaction among users (Burgess, 2006).

According to Drucker (2009), Meggs's approach towards artifacts is dominantly form-oriented and distinguished from the perspectives of other graphic design historians, including Richard Hollis whose survey focuses on narratives of the local cultures and social context rather than on aesthetics. In recent years, more surveys have adopted the narrative structure emphasizing design activities and context rather than an object's description. Likewise, some surveys comment on the designer's obligation to offer the public visual communication messages that help them understand social conditions and attitudes (Drucker & McVarish, 2013).

Contrary to this idea, many surveys still focus on the visual aspects of graphic artifacts, along with their expressivity and aesthetic principles. This analytical approach can diminish graphic design's human communicative activities. Considering the fast-changing stylistic trends of graphic design, the current iconic design objects can be quickly transformed into antiquated and useless things. In other words, the canon built on the aesthetic principles would contain less worthy objects only a few months later. This suggests that a graphic design narrative that focuses on visual trends could be overwhelmed by the proliferation of low-valued objects, which lack timeless value applicable to the design process. This possible scenario suggests that more design survey texts may need to adopt a narrative inviting social interactions as meaningful criteria for determining successful graphic design. Understanding today's design culture and practice requires considering the social environment and having empathy for human actions (In Resnick, 2016). The narratives should lead to the questions of how graphic artifacts contribute to the establishment of communities of knowledge and its social implications and values.

The crafts' social vision as an additional narrative in graphic design surveys

The historical craft vision for a better society could be seen as tightly aligned with impulses evident in certain strands of contemporary design practice to address the social and environmental needs of a broader population, including minorities (Margolin & Margolin, 2002). Specifically, the British Arts and Crafts movement of the late nineteenth century and in particular the ideology of William Morris, are good examples of craft's social visions. Morris espoused craft as social reform, "against the social, moral, and artistic confusion of the Industrial Revolution" in the nineteenth century (Meggs & Purvis, 2016, p.187). Since the Industrial Revolution between 1760 and 1830, technical improvements caused the abrupt transition "from the medieval to the state of the applied art"(Pevsner, 1991, p.43). Morris's counteractions from the Great Exhibition of 1851 that displayed machinery artifacts with poor aesthetic quality entailed the revival of handicrafts, along with the corresponding values embodied in medieval society and craft. The distinctive feature of Morris's protest was his deep understanding of the social implication of craft and his social duty as not an artist but a craftsman-designer (Pevsner, 1991). Instead of taking the side of "the philosophy of Art for Art's sake," Morris's decision to take the craftsman-

designer side stressed the crafts' function to reveal a social message rather than an artistic expression (Pevsner, 1991, p.152). The restoration of decorative honesty by Morris represented the social concern related to his ideal of making a better society. Likewise, examining such notions of the social and moral implications of craft could help design students reflect on how graphic design objects might operate within a society.

The moral value of crafts, the essence of "the well-being of society," echoes the honesty of materials used in graphic design artifacts, which becomes essential in sustainable design for positive social impact (Greenhalgh, 1997, p.33). Morris's statement, "I don't want art for a few, any more than education for a few, or freedom for a few" reflects not only the avant-garde aspect of the Arts and Crafts movement that rejected middle-class taste, but also the communicative aspect that involves a broader inclusion of more diverse social groups (Pevsner, 1991, p.22). Unfortunately, it was ironic that the emphasis on handcrafts revealed that universal access to objects by all users was still limited. Delicate handcraft items of high quality were too expensive for people who were not in the middle class. However, Morris's core vision of enhancing the quality of life for a better society still resonates with socially focused strands in today's graphic design philosophies. Morris was strongly concerned with the relationship between the maker and the user, highlighting how the makers' intent involves a product's "morality in terms of the feelings of those who produced it and of those who use it" (Stansky, 1985, p.33). This relationship pushes past old boundaries of graphic design to include all people as well as aligns with the designer's relationship with clients or consumers. A very responsible graphic designer, as a message maker and an agent of social change, could share the belief of the Arts and Crafts movement that considered "the shoddiness of everyday objects" as "a moral failing" (Drucker & McVarish, 2012, p.152).

Regardless of their scope, almost all graphic design narratives include The Arts and Crafts movement as a means to introduce its enormous influence on publication design. But, the description of its heritage, the craft ideal, shared among many societies and communities that united for the common good in the late 1880s and 1890s is found in a neglected state in many narratives. For example, in Meggs's survey the section about the Century Guild, which was founded by Arthur H. Mackmurdo and strongly inspired by William Morris with the aim of preserving craft authenticity, concentrates on the search for a new design aesthetic and typographic achievements, excluding the part explaining the influence of social and political values in the Century Guild. Similarly, descriptions of graphic design's relationship with crafts' social value in movements such as Art Nouveau, the German Jugendstil movement, the Vienna Secession, etc. are largely neglected.

A survey that does not connect crafts with their social value may interfere with a reader's comprehensive view and understanding of the underlying philosophy of historical movements. Therefore, it is important to discuss how societies and communities pursuing the rhetoric of the Arts and Crafts movement achieved and eventually diluted the social value and philosophy of craft. Providing the context of how the ideas of social reform motivated members in societies and communities would help future designers understand how design practice can accomplish new visions of society.

A design historian, Paul Greenhalgh (1997) described the three elements of crafts as the

politics of works, the vernacular, and decorative arts. According to Greenhalgh (1997), thinkers and makers, who were motivated by the social and moral values of the Arts and Crafts movement, brought these elements together in the late nineteenth century. Above all, William Morris was a central pioneer, who accomplished the politics of works by carrying out a social vision that encompassed the political ideal of the centrality of human rights (Greenhalgh, 1997).

In addition, the vernacular, one of the elements of crafts referred to by Greenhalgh (1997) in the history of craft, could provide another alternative narrative in the graphic design history survey that is also connected to the social model of craft. The vernacular means the particular regional culture in which a locality is collectively produced. Vernacularism has been considered a cultural phenomenon since the Gothic revivalists in the early nineteenth century rejected urbanism's encroachment on authentic virtues (Greenhalgh, 1997). The phenomenon was symbolically significant to William Morris and the Arts and Crafts movement, given Morris's attempts to guard "the rural and handmade aspects of craft production" (Greenhalgh, 1997). Later, the vernacular was welcomed among anti-modernist groups, who wanted to preserve heritage. It was denounced by Modernists, and by the 1970s, in the postmodern age, the vernacular was utilized to extend a design potential. (Greenhalgh, 1997; Margolin, 2002).

As mentioned earlier, vernacularism tends to be undervalued in graphic design narratives. In terms of the vernacular, Meggs's survey demonstrates vernacular design as a part of stylistic expression:

> The term vernacular design refers to artistic and technical expression broadly characteristic of a locale or historical period; it closely relates to retro design. Vernacular design is the paraphrasing of earlier commonplace graphic forms, such as baseball cards, matchbook covers, and unskilled commercial illustrations and printing from past decades (Meggs & Purvis, 2016, p.506).

However, highlighting only the formal element of vernacularism in a text survey can prevent design practitioners from perceiving the vernacular as an interactive design process. What is also missing from Meggs's survey is the growing phenomenon of "vernacular expressions," that is, the participatory action in today's media culture (Gürsimsek, 2016, p.331). Ironically, this democratic phenomenon, led by the ordinary media audience, is associated with Meggs's premise of graphic design as visual communication, which is strongly tied to the social connection inherent to craft. Survey courses should embrace critical discussion of diverse vernacular design that ranges from its historical formation and progress to the social interaction encouraged by new media. As seen with Tibor Kalman, who considered himself a social activist trying to achieve good design based on social responsibility to the surrounding culture, the concept of the vernacular might offer new insights into designers' works that lead to more minority groups getting involved in graphic design (Heller, 1999).

Interestingly, the decorative arts, the last element of crafts defined by Greenhalgh (1997), involves the disenfranchised status of crafts in art history. Unlike paintings and sculptures, the functionality and practicality of crafts have given them unstable ground in the hierarchy of fine arts, since the Second World War (Shubert, 1993). Due to the rise of Romanticism, the creative thoughts formed by cognitive activity, which once were seen as an inseparable part of creative

practice, began to be separated from physical activity (Greenhalgh, 1997). Since then, the "way of seeing things" in the realm of fine arts has become superior to the "way of doing things" in crafts (Greenhalgh, 1997, p.41).

Likewise, the content of surveys reflects how the concept of graphic design is more loosely tied to craft than it is to fine arts. For example, Meggs prioritizes not graphic design's relationship with craft but with art, emphasizing the stylistic progress of fine arts such as the influence of modern art styles like cubism, futurism, dada, surrealism, and photography. In addition, Meggs gives less weight to the heritage of The Arts and Crafts movement than to the entire chapter about the influence of modern art. The fact that the greatest portion of the book is about the modern and contemporary periods after the end of World War I could account for Meggs's emphasis on the relationship between graphic design and fine arts. Undoubtedly, assessing formalism or aesthetic properties in design practice is important because of such assessments' strong influence on boosting sales in the market. However, today a "social model" of design practice that calls for designers' responsible actions keeps emerging as opposed to the "market model" that caused unbridled capitalism (Margolin & Margolin, 2002, p.25). Accordingly, Meggs's narrative should propose design's common ground with craft, which is associated with social needs that could later help shape social agendas in graphic design practice.

Conclusion

Rooting craft in social interaction has positioned modern craft as a democratic and political activity (Cooke, 2007). Likewise, designers'notions of social reform can position them as active agents to pursue the wellbeing of society. Two of the elements of crafts proposed by Greenhalgh (1997) —the politics of works and the vernacular—can benefit the design field by offering a lens to question social and political contexts critically. The growing awareness of social design—which has the primary objective of design positively impacting society—expands design studio classes gradually from the commercial practice-based model to a social cause-based model (In Resnick, 2016; Margolin & Margolin, 2002). This shift in the class model that cultivates citizen designers who have moral and social responsibility implies a need for adding a new perspective to the graphic design history survey that cultivates ideas about fulfillment of designers' social motivation in practice (Heller & Vienne, 2003). In this regard, the new approach blending the social aspects of craft into graphic design education will contribute to shaping the thinking of future design practitioners toward a social need. A possible pathway is to focus on the social value and philosophy of craft in the graphic design history narrative, which can become an alternative approach that contributes to envisioning design for social needs.

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References

Aynsley, J. (1987). *Design history: A student's handbook*. H. Conway (Ed.). London: Allen & Unwin.

Barnard, M. (2005). *Graphic design as communication*. New York: Routledge.

Burgess, J. (2006). Hearing ordinary voices: Cultural studies, vernacular creativity and digital storytelling. *Continuum, 20(2),* 201-214.

Clark, H., & Brody, D. E. (2009). *Design studies: A reader edited by Hazel Clark and David Brody*. H. Clark & D.E. Brody (ed.). New York: Oxford.

Conway, H. (1987). *Design history: A student's handbook*. H. Conway (Ed.). London: Allen & Unwin.

Cooke Jr., E. (2007). Modern Craft and the American Experience. *American Art*, *21(1),* 2-9.

Dhillon, K. (2012). Graphic design: History in the making: Organized by Sara De Bondt and Catherine De Smet. St. Bride library, London. *West 86th: A Journal of Decorative Arts, Design History, and Material Culture, 19(1)*, 169-171.

Drucker, J. (2009). Philip Meggs and Richard Hollis: Models of graphic design history. *Design and Culture, 1(1)*, 51-77.

Drucker, J., & McVarish, E. (2013*). Graphic design history: A critical guide*. Boston: Pearson.

Dwiggins, W.A. (1999). *Looking closer: 3*. M. Bierut, J. Helfand & S. Heller (Ed.). New York: Allworth Press.

Greenhalgh, P. (1997). The History of Craft. Edited by Peter Dormer. *The Culture of Craft*, New York, 20-52.

Gürsimsek, Ö. A. (2016). Animated GIFs as vernacular graphic design: Producing tumblr blogs. *Visual Communication, 15(3),* 329-349.

Heller, S. (1999, May 5). Tibor Kalman, 'Bad Boy' of Graphic Design, 49, Dies. *The New York Times*. Retrieved from http://www.nytimes.com/1999/05/05/arts/tibor-kalman-bad-boy-of-graphic-design-49-dies.html.

Heller, S., & Vienne, V. (2003). *Citizen designer: Perspectives on design responsibility*. New York: Allworth Press.

Hollis, R. (2002). *Graphic design: A concise history*. New York: Thames & Hudson.

Howard, R. G. (2008). The vernacular web of participatory media. *Critical Studies in Media Communication, 25(5)*, 490-513.

Huppatz, D., & Lees-Maffei, G. (2013). Why design history? A multi-national perspective on the state and purpose of the field. *Arts and Humanities in Higher Education, 12(2-3),* 310-330.

In Resnick, E. (2016). *Developing citizen designers*. New York: Bloomsbury Publishing Plc.

Livingston, A., Livingston, I., & Livingston, A. (2003). *The Thames & Hudson dictionary of graphic design and designers*. London: Thames & Hudson.

Margolin, V. (2002). *The politics of the artificial: Essays on design and design studies.* Chicago; London: University of Chicago Press.

Margolin, V. (2015). *World history of design*. London; New York: Bloomsbury Academic.

Margolin, V. & Margolin, Sylvia. (2002). A "social model" of design: Issues of practice and research. *Design Issues 18 (4):* 24-30.

Meggs, P. B. (1983). *A history of graphic design*. New York: Van Nostrand Reinhold.

Meggs, P. B., & Purvis, A. W. (2016). *Meggs' history of graphic design*. Hoboken, N.J: John Wiley & Sons.

Pevsner, N. (1991). *Pioneers of modern design: From William Morris to Walter Gropius*. London: The Penguin Group.

Shubert, S. B. (1993). The decorative arts: A problem in classification. *Art Documentation: Journal of the Art*

Libraries Society of North America, 12(2), 77-81.

Stansky, P., & Arts and Crafts Exhibition Society. (1985). *Redesigning the world: William Morris, the 1880s, and the Arts and Crafts.* Princeton, N.J: Princeton University Press.

Stansky, P. (2008, July 15) Morris, William. *Grove Art Online. Oxford Art Online. Oxford University Press*. Retrieved April 22, 2017. from http://www.oxfordartonline.com/subscriber/article/grove/art/T059724.

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Theme

II

Transnational Design in and around Asia

Art and Design Education in Nineteenth Century India: British Background and Development in South Asia

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Abstract

Design education in India in a broad sense started in the mid-nineteenth century at three art schools in Madras, Calcutta, and Bombay. Another school was founded in Lahore in 1875. Although established during the colonial period, these schools are important for the history of art and design education in India and Asia also. The Madras School of Art was started in 1850 by Alexander Hunter. With the opening of the industrial section, it renamed the Madras School of Art and Industry. In 1852, it became the Government School of Industrial Arts. The Calcutta school was established in 1854 as the School of Industrial Art by the Society for the Promotion of Industrial Art. The South Kensington School of London supported it and selected Henry Hover Locke for the post of the first principal of the Calcutta school. It was renamed the Government School of Art in 1864, as the Government Schools of Design in Britain had started to be renamed Schools of Art since 1853. Locke stressed on imparting art education along the lines of South Kensington where academic naturalism became predominant. Earnest Binfield Havell served the Madras school as superintendent from 1884, and moved to the Calcutta school in 1896. He put emphasis on the Indian style of art instead. Havell also studied at the South Kensington School, but less academic and more familiar to the Arts and Crafts. The other historical art school is Sir J. J. School of Art founded in Bombay. Although histories of the Government Schools of Design were written in Britain, schools established in India were rarely included. By including these Indian schools in this history, we can get a broader view of the history of design education in the nineteenth century.

Keywords: Art and Design Education, India, Madras (Chennai), Calcutta (Kolkata), Bombay (Mumbai), South Kensington system

Introduction

While Asia has its own unique traditions and a long history of art, the idea of art education came from Europe in the mid-nineteenth century; from Britain to India and from Spain to the Philippines. Although art education was introduced almost simultaneously in both regions, several art schools in succession were founded in India, while only a few academies or schools of art were founded in the Philippines in the early nineteenth century.

From the mid-nineteenth century, art schools supported by the British Government were founded in major Indian cities such as Madras (Chennai), Calcutta (Kolkata), Bombay (Mumbai), and Lahore (Pakistan's Punjab region) focused on industrial arts. Some of these schools were renamed "school of arts" and renamed again as "school of arts and crafts", which was one of the reasons nineteenth century art education history in India is unique and important in global design education history.

These changes in India were related to similar changes in art education in Britain in the nineteenth century. The first Government School of Design was founded in London in 1837, renamed the Central Training School of Art in 1853, the Normal Training School of Art in 1857, and the National Art Training School in 1863. In 1896, it was reformed and renamed the Royal College of Art, with the Central School of Arts and Crafts being founded by the London Country Council in December of the same year.

Although European academic art education mainly based on life drawing was introduced in most art schools in India, some British teachers sought to develop art education methods based on traditional Indian art and industrial arts. Unlike the British art schools established in major Indian cities, some other art schools founded by the Maharajas (Indian princes) attempted to cultivate local art traditions. This study compares the histories of the four major Indian art schools in Madras, Calcutta, Bombay, and Lahore (Pakistan since 1947). By comparing them with a few important schools and institutes in the former British Commonwealth (former territories of the British Empire), the historical significance of Indian art and design education in the nineteenth century is enumerated.

In this paper, we will focus on not only educational content but also the name of schools and their gradual changes. Although the name expresses contents as well as organization, few publications in art and design history are fully paying attention to the change of their names by sometimes using newer ones to describe the history of the preceding period.

Madras (Chennai)

On May 01, 1850, the Madras School of Art was established by Alexander Hunter (1816-n.d.), Resident Surgeon of the Madras Presidency, as a private art school. Although a Scottish portrait painter, James Wales (1747-1795) had initiated training a few students at Shaniwarwada in Pune in 1792 at the request of Peshwa Sawai Madhavrao (1774-1795), this came to its end within a few years due to the death of both James Wales and Sawai Madhavrao in 1795 (Macquarie Archive). Therefore, this was the first art school founded in India and one of the first in Asia.

Fig.1 Government College of Fine Arts (former Government College of Arts and Crafts), Chennai

Born and raised near Edinburgh, Hunter had been a pupil of the Royal Scottish Academy and a draughtsman in the dissecting room of the Edinburgh Infirmary. He was also a pupil at the Life Academies and Schools of Design and Modelling in Edinburgh and Paris (Dewan, 2002). Although he was undergoing more important training to become a surgeon, his studies at these academies and schools indicate that training in different specializations such as art, technology, and medicine were more interrelated in the early nineteenth century. On completing his studies in Edinburgh in 1837, his father secured for him a medical appointment in India.

The Government School of Design was founded in London in 1837. When the Madras School of Art opened an industrial arts section after its foundation, the term "design" was added to the school's name. The development of the first art schools in India was closely associated with the Government School of Design in Britain. While undertaking his medical duties in India, Hunter began experimenting with pottery production and was also interested in developing local resources into local industries. The local techniques he learned were developed into a pottery production program in the industrial arts section of the Madras School of Art.

The name of the art school was altered several times. On the inauguration of the industrial arts section in June 1851, it was amended from the Madras School of Art to the Madras School of Art and Industry. In 1852, after being taken over by the government, it was renamed the Government School of Industrial Arts and has since been referred to also as the Industrial School of Arts, the Madras School of Art and Design, and the Madras School of Arts and Crafts. In the twentieth century, the name changed again to the Government School of Arts and Crafts, Madras, to the Government College of Arts and Crafts, and to the Government College of Fine Arts, Chennai, at the beginning of the twenty-first century.

In 1865, Robert Chisholm (1840-1915), the British architect pioneering the Indo-Saracenic style in Madras, was appointed head of the Madras School of Industrial Arts. After Hunter's retirement in 1873, Chisholm became superintendent of the school. After his retirement in 1884, Ernest Binfield Havell (1861-1934) became superintendent. Havell began his career in South Kensington and studied at the National Art Training School, where his interest in Indian crafts developed. Although the Government School of Design had been renamed the

Fig.2 Former Government College of Arts & Crafts (Government School of Industrial Arts in the 19th century), Chennai

Central or Normal Training School of Art and then the National Art Training School and was progressing toward academic naturalism, an interest in decorative arts and crafts was also developing in Britain and Europe in the 1880s. Havell was twenty-three when he became superintendent and, during his decade long tenure, he started developing art education based on Indian rather than western models

After Havell's departure from Madras in 1896, William Snelling Hadaway (1872-1941) became superintendent in 1907, and continued Havell's focus on more traditional Indian art. Hadaway had studied at the School of the Museum of Fine Arts, Boston, Massachusetts. He specialized in book illustration, jewelry, and metal design. In the 1870s, the influence of British art education was also spreading in the US, especially in Massachusetts, where Walter Smith (1836-1886), also a South Kensington school graduate, became professor of art education and Massachusetts State director of art education (Smith, 1872). Smith had been an industrial arts education pioneer and had disparaged academic naturalist art education; however, in the early 1880s, when academic art education was becoming cherished again and the influence of William Morris (1834-1896) was also gaining ground, he faced increasing criticism. Both Havell and Hadaway belonged to this new generation of the Arts and Crafts movement proponents. Morris was a pioneer of both the Aesthetic Movement and the Arts and Crafts Movement. Both Britain and India were shifting from industrial arts education to art education and/or arts and crafts education in the late nineteenth century.

Calcutta (Kolkata)

The Government College of Art & Craft in Kolkata is one of the oldest art schools in India. It was founded at Garanhata, Chitpur as the School of Industrial Art on August 16, 1854, as a private art school. In 1864, it was renamed the Government School of Art, and in 1951 it became the Government College of Art & Craft.

The Government College of Art and Craft, Calcutta, celebrated its one hundredth anniversary in 1964 and in 1966, published a book, *Centenary: Government College of Art & Craft, Calcutta*, which included a very detailed paper "History of the Govt. College of Art & Craft"

Fig.3 Government College of Art & Craft, Kolkata

by Shri Jogesh Chandra Bagal. In the introductory chapter, Chandra Bagal discussed the origins of the Mechanics Institute, Calcutta.

> The institution in its origin had a distinct character of its own. But the movement for its start may be traced much earlier than when it first came to the light of day. The Mechanics Institute or Institution was founded in Calcutta on the 26th of February, 1839 to provide for young men, preferably of the Eurasian brand, training in mechanical arts. (...) The prominent Europeans and Indians formed a committee of management for the institution. (...) The institution began with promise but could not carry on long for want of public support. We hear nothing of it in the late forties. (Bagal, 1964)

The first mechanics' institute was founded in Scotland in 1821 as the School of Arts of Edinburgh, with a second being established in Glasgow in November 1823. The first mechanics' institute in England was the Mechanics' Institute of Liverpool founded in July 1823, with a further institute being founded in London in December the same year. In Canada, the Montreal Mechanics' Institute was founded in 1828, and the York Mechanics' Institute was founded in Toronto in 1830. In Australia, the first mechanics' institute was established in Hobart in 1827, with the Sydney Mechanics' School of Arts opening in 1833. While the mechanics' institutes in the UK, the USA, Australia, and Canada are partly kept as libraries or recorded in documents, those in India were not well-documented.

Although the names of the first mechanics' institute in the world, the School of Arts of Edinburgh and one of the first mechanics' institutes in Australia, the Sydney Mechanics' School of Arts, were similar to those of art schools in the nineteenth century, there was a clear difference between the two in the west. Mechanics' institutes were intended as educational establishments for primarily adult education in technical subjects for working men; therefore, in the nineteenth century, schools of arts in the west were referred to as schools of mechanical arts rather than schools of fine arts. The School of Arts of Edinburgh later became a large public university, Heriot-Watt University, which does not have a department of art or design. The Sydney Mechanics' School of Arts still teaches some programs comprising public lectures and courses and has a lending library and other activities based on its adult education mission;

Fig.4 Government College of Art & Craft, Kolkata

however, there are no major art or design courses.

As Chandra Bagal wrote, there was also no clear distinction in India between the fine arts and crafts and the fine arts and mechanical arts. The term "industrial arts" was used in the names of most major art schools founded in India in the nineteenth century. Before the foundation of the Calcutta school, there was a Mechanics Institute or Institution in Calcutta founded in February 1839 for providing mechanical arts training for young men. As the Mechanics' Institutes were educational establishments originally founded to provide adult education to working men in mainly technical subjects, they were often funded by local industrialists as they would ultimately benefit from having more knowledgeable and skilled employees. While similar organizations were sometimes simply called Institutes, none were art schools. However, when Alexander Hunter established the Madras School of Art, the institutes and art schools were partly interrelated or similar until the mid-nineteenth century.

The committee for the Society for the Promotion of Industrial Art wrote to Richard Redgrave (1804-1888), superintendent of the National Art Training School (former Government School of Design) in London early in 1864 requesting for the selection a suitable candidate for appointment as principal for the School of Industrial Art. For this, Redgrave selected Henry Hover Locke (n.d.-1885). In June 1864, Locke reached Calcutta and took charge of the school, which subsequently came under the control and supervision of the Director of Public Instruction. After this, the status of the committee changed to a mere advisory or consultative body (Bagal, 1964). In Calcutta, Locke stressed the imparting of art education along the lines of the South Kensington school in London (Ghosh, 2015). He remained principal of the Government School of Art until 1882.

After Locke's death in 1885, the post of vice-principal was created, to which an Italian artist, Olinto Ghilardi (1848-1930) was appointed. Ghilardi was the mentor of Abanindranath Tagore (1871-1951), who studied at the Government School of Art in Calcutta. E. B. Havell was then appointed superintendent of the Government School of Art, Calcutta, commencing his post a day after his arrival in Calcutta on the 5th of July 1896. Havell was principal of the Government School of Art, Calcutta from 1896 to 1905, where he developed a style of art and art education based on Indian rather than western models along with Abanindranath Tagore, a

nephew of the poet Rabindranath Tagore (1861-1941) who was going to establish *Visva Bharati*, today's Visva Bharati University, in Santiniketan, West Bengal.

Bombay (Mumbai)

In Bombay, or Mumbai, the School of Art and Industry or the Sir J. J. School of Art and Industry was founded on March 02, 1857 by a Parsi-Indian merchant and philanthropist, Sir Jamsetjee Jeejebhoy (1783-1859), who was impressed by the quality of the craftworks at the Great Exhibition held in Hyde Park, London, in 1851. He decided that there needed to be a school for art and industry in Bombay to train Indian craftsmen. The school started with elementary drawing and design classes at the Elphinstone Institute, but its main purpose was to provide instructions in painting, drawing and design, ornamental pottery, metal, and wood-carving and turning. Complicated machinery was indispensable and training was provided by master craftsmen who could manufacture artistic craft products and preserve the traditional skills and techniques of Indian crafts (Sir J. J. School of Art, *The Glorious 150 Years of Sir J. J. School of Art*, Mumbai). The School of Art and Industry operated as an experimental school during the lifetime of Sir Jamsetjee Jeejebhoy (Sir J. J. School of Art, *Story of Sir J. J. School of Art*, Bombay).

A journalist and art critic, Joseph Archer Crowe (1825-1896) was offered the post of overseeing the Bombay School of Art and Industry. After studying painting in Paris, Crowe returned to London in 1843 and started his career in journalism while pursuing a parallel career in art history. He worked for the *Daily News* and was Paris correspondent from 1849 to 1852. During this time, he was also appointed editor of the *Bombay Gazette* and *Bombay Standard* and the *Illustrated London News* sent Crowe to cover the war in India (c. 1855-56). Although he was selected and trained in England to be appointed as the first superintendent of the school and relocated to Bombay in 1857, the role did not materialize. In July 1857, an expert painter and engraver, George Wilkins Terry (n.d.-n.d.), was appointed as the school's first drawing master and he started taking full time classes in 1860. He became so popular that the school was called "Terry's school." As the number of students increased, the need for an assistant became apparent.

In 1865, Terry visited London to search for expert teachers for the school and found John Lockwood Kipling (1837-1911), John Griffiths (1837-1918), and Michael John Higgins (n.d.-n.d.). In the UK, the Department of Science and Art was established, and, in 1853, the Government School of Design was renamed the Central Training School of Art and then, in 1863, as the National Art Training School. By this time, it was focusing on teacher-training to supply art masters to the department's network of art schools at home and abroad. In 1856, the London school moved from Mar-

Fig.5 Sir J. J. School of Art, Mumbai

lborough House to South Kensington and, in 1864, Henry Hover Locke was sent from South Kensington to Calcutta. In the following year, Kipling, a specialist in architectural sculpture, Griffiths, a specialist in mural painting, and Higgins, a specialist in ornamental ironwork, were all sent to Bombay. In Bombay, Kipling's son, Rudyard Kipling (1865-1936) was born in December 1865. William Terry retired in 1877 and, three years after his retirement, John Griffiths was appointed superintendent in 1880.

Fig.6 Sir J. J. School of Art, Mumbai

As Deepali Dewan pointed out, one of the central contradictions in colonial art education curriculum was the co-existence of mandatory naturalistic drawing classes and training in traditional Indian art (Dewan, 2002). However, naturalistic drawing lesson was very popular in these major cities in India, especially at Sir J. J. School in Bombay. In 1877, the number of student in its drawing school was 111, while that in both architectural and decorative departments was only nine. The departments of pottery, wood engraving, metalwork, etc., were separated and fine art became a more important central objective of the school. The name of the school became Sir J. J. School of Art (*Story of Sir J. J. School of Art*, Bombay). Draftsman's class was attached to Sir J. J. School of Art in 1896 and reorganized as a course to make it suitable for training in architecture in 1913. It became Sir J. J. College of Architecture. Sir J. J. Institute of Applied Art started operations in the buildings of Sir J. J. School of Art in 1935.

Lahore

In 1875, the Mayo School of Industrial Arts, named in honor of the recently assassinated British Viceroy of India Lord Mayo, and the Lahore Museum were founded in Lahore, Punjab. John Lockwood Kipling, who had been teaching in Bombay, was made the first curator of the Lahore Museum and the first principal of the Mayo School of Industrial Arts. The Mayo School of Industrial Arts was restructured as the National College of Arts, Pakistan, in 1958.

By May 1873, Kipling had decided to apply for the post of principal at a new school of art in Lahore. Kipling had married Alice MacDonald (1837-1910) in 1865 and moved with his wife to India, where he had been appointed as a professor of architectural sculpture at the J. J. School of Art and Industry in Bombay.

Alice was the elder sister of Georgiana MacDonald, who had married Edward Burne-Jones, a painter and best friend of William Morris. Although it was 1887-88 when the Arts and Crafts Exhibition Society was organized and the exhibition and movement formally commenced, Morris, Marshall, Faulkner and Co. had been established since 1861; therefore, the Arts and Crafts Movement had essentially started in London without its future movement's

name.

Unlike Henry Hover Locke or Walter Smith, Kipling, who had studied at a few art and design schools in the early years of the South Kensington system, was a proponent of fine arts and crafts as well as design. In 1866, a younger sister of his wife, Agnes MacDonald, married Edward Poynter, another painter, who served as principal of the National Art Training School from 1875 to 1881 and president of the Royal Academy of Arts at the end of the nineteenth century. Kipling was an advocate of both the academic and anti-academic schools of art. As a specialist in architectural sculpture, he taught sculpture, architecture, drawing, and design in Lahore, a historical, traditional city in Punjab, until 1893.

Some other art schools in Nineteenth-century India

There were also some other art schools established in nineteenth century India. Aided by Thomas Holbein Hendley (1847-1917), the Jaipur School of Art was established by Maharaja Ram Singh II (1835-1880) in 1866. Unlike the three British government schools of art in Madras, Calcutta, and Bombay, where the main focus was drawing, a western skill, the Jaipur School of Art was established to promote more local technical and industrial arts (Tillotson, 2006).

According to Giles Tillotson, the Jaipur durbar felt that the art schools of Calcutta, Madras, and Bombay focused too much on drawing, which they considered a western skill. Although they endeavored to promote more local industrial arts, they also received support from a European surgeon, Dr de Fabeck (n.d.-n.d.), who was a Rajasthani art enthusiast and who also agreed to direct the Maharaja School of Art in Jaipur.

Valentine Cameron Prinsep (1838 -1904), who had been born in Calcutta and was a painter and friend of Burne-Jones and Edward Poynter, visited the school in Jaipur in 1877. He was impressed by the mechanical skills and handiwork rather than the students' drawing abilities (Tillotson, 2006). Unlike the three government schools of art, there have been few historical studies on the local or Maharaja schools even though there are some other important art schools in various cities across India.

Conclusion

In 1961, based on a report by Charles and Ray Eames, the National Institute of Design, one of the first design research and educational institutes in India, was founded in Ahmedabad by the Indian government. However, design education in India in a broad sense started in the mid-nineteenth century at the three art schools founded in Madras, Calcutta, and Bombay, with a further school being founded in Lahore in 1875. These schools were also the first art schools or industrial art schools in Asia. Although they were established during the colonial period and basically managed by the British government, they were very important to the development of art and design education in India and Asia.

While the Madras School and Calcutta school moved to traditional art, the Bombay school taught mainly western art. Although many teachers who came from Britain were graduates of the South Kensington school, their ideas about art and design changed over the genera-

tions from industrial arts to fine arts in the 1860s-70s and from fine arts to the arts and crafts in the 1880s-90s.

The history of art and design education in India is closely related to that of Britain. While the history of art education in British has long been studied, the study of the history of art education in India is only now developing. However, to more deeply analyze the history of art and design education in the nineteenth century, comparative studies from major English-speaking countries are necessary. Through a comparison of the histories from UK, US, Canadian, Australian, New Zealander, Indian, and South African art and design education, we can understand the global, intercultural and interdisciplinary development of each country's art and design education.

References

Bagal, J. C. (1964), History of the Government College of Art and Craft. *Centenary: Government College of Art & Craft, Calcutta*, Calcutta: The Government College of Art & Craft, 1-58.

Birdwood, G. C. M. (1880), *The Industrial Arts of India*, London: South Kensington Museum.

Bryant, J., & Weber, S., ed., (2017). *John Lockwood Kipling: Arts & Crafts in the Punjab and London*, New York: Bard Graduate Center Gallery.

Dewan, D. (2002), *Crafting Knowledge and Knowledge of Crafts: Art Education, Colonialism and the Madras School of Arts in Nineteenth-Century South Asia*, Ann Arbor, UMI Dissertation Services, 30-33, 55-56.

Dutta, A. (2007). *The Bureaucracy of Beauty: Design in the Age of its Global Reproducibility*, New York: Routledge.

Frayling, C. (1999). *Art and Design, 100 Years at the Royal College of Art*, London: Collins & Brown.

Freyne, C. (2010). The School of Arts movement, Retrieved 27 April 2017 from http://dictionaryofsydney.org/entry/the_school_of_arts_movement

Ghosh, M. (2015). Role of Government School of Art in the Development of 'Neo-Indian School': A Historical Perspective. *Sesquicentennial Celebration 1864-2014, School of Industrial Art 1854, Govt. School of Art 1864, Govt. College of Art & Craft 1951*, Kolkata: Government College of Art & Craft, 11-17.

Macdonald, S. (1970). *The History and Philosophy of Art Education*, Cambridge: The Lutterworth Press.

Mitter, P. (1994). *Art and Nationalism in Colonial India, 1850-1922: occidental orientations* / Cambridge: Cambridge University Press.

Smith, W. (1872). *Art Education, Scholastic and Industrial*, Boston: James R. Osgood and Company.

Smith, W. (1882), *The American Text-Books of Art Education, Teachers' Manual for the Primary Course of Instruction in Drawing*, Boston: L. Prang and Company.

Smith, W. (1882). *Popular Industrial Art Education. The Answer to a Question*, Philadelphia: The Pennsylvania Museum and School of Industrial Art.

Sir J. J. School of Art (n.d.), *The Glorious 150 Years of Sir J. J. School of Art*, Mumbai.

Sir J. J. School of Art (n.d.), *Story of Sir J. J. School of Art*, Bombay, 38-40, 65.

Tillotson, G. (2006), *Jaipur Nama: Tales from the Pink City*, London: Penguin Books, 138-143.

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Haruhiko Fujita is Professor Emeritus of Aesthetics at Osaka University. He was co-director of the Italian Design Summer School of the University of Bologna more than ten years from 2006. He published mainly on William Morris, the National Trust, Japanese art and design, American and British architecture, landscape painting with special interest in Claude Lorrain and J.M.W. Turner. In one of his books, *Iconology of the Universe*, he deals with changing human perception, expression, and ideas of the Sun, the Moon, Stars, and the Earth through ancient to modern times. He is seeing the world as a dynamic landscape of nature and man-made, and design activity as a grand brocade of space and time. He is the chief investigator of a five-years (2015-19) research project of the Japan Society for the Promotion of Science, "International Comparative Study of Art and Design Education," in which sixteen researchers analyze and compare histories of various academies and schools of art, architecture, and design, started in Italy in the sixteenth century, and widely developed all over the world, particularly in Asian countries in the nineteenth and twentieth centuries, through some other European countries.

The Photographic Society of Japan and Photographic Enlightenment from the West

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Abstract

Kazumasa Ogawa learned photography with his eyes fixed on the West, getting to know the latest photographic techniques and making the acquaintance of Japanese students of influential status while he was in the United States. William Burton describes Ogawa's life as a "Young Japan" who found his way of living by learning the Western technology. The Photographic Society of Japan also developed by interacting the West and it mainly consisted of foreigners and Japanese members of the upper class. They shared photographic knowledge and works regardless of nationality or profession. Western culture was recommended to the aristocracy as something to be learned, as members were expected to be good role models for others. Therefore, the Photographic Society emphasized the nobility of photography in order to promote it. In May 1893, it held the Exhibition of Foreign Photographs, the first exhibition of photographs from other countries, demonstrating the latest technology and the artistic nature of photographs. The exhibition was requested by a British photographic association, which stimulated pride in photography in Japan. Photography appealed to both the upper class and other classes in Japan, demonstrating that enlightenment had spread throughout the country's classes.

Keywords: Photography, Kazumasa Ogawa, the Photographic Society of Japan, Meiji Era, William K. Burton

Introduction

Japan aggressively adopted Western culture in the 19th century, when the Meiji Government (明治政府) took over political administration from the Edo Shogunate (江戸幕府). This presentation is going to focus on the photographer Kazumasa Ogawa (小川一真, 1860-1929) and his association with the Photographic Society of Japan (日本写真会) to discuss how Western culture was introduced and practiced through the creation of connections.

Photography as a Key to Connecting with the West

The first photo studio in Japan was opened in Yokohama in 1859 by an American merchant, Orrin Erastus Freeman (1830-66), and he trained the first Japanese photographer (Benett, 2006, p. 58). Later, Japanese photographers also started to have disciples, but it was not until Ogawa went to the United States that the Japanese started to go abroad to learn the skill.

Ogawa encountered photography when he was fourteen. His English teacher, Kennon, showed Ogawa his camera and lent him *A History and Handbook of Photography* (1876), by Gaston Tissandier (1843-99), an English textbook (Ozawa, 1994, pp. 30-31). Ogawa encountered photography through a Westerner instead of learning it from Japanese photographers, and he started to learn it in English. Learning photography may have been an experience of the Western world for him, so when he decided to study photography to become an expert, he valued his acquisition of English.

After his graduation, Ogawa opened his own photo studio in Tomioka, a thriving silk-spinning city thanks to a famous factory, the Tomioka Silk Mill. Although his photographs cost 75 sen a piece, which was quite expensive for the factory workers, who earned about 2 yen (200 sen) a month, they were unusual enough to make good souvenirs. Ogawa had enough money after two years to be able to afford a dark box, which cost 150 yen. He also won a prize at the second Domestic Industrial Exposition in 1888 (Ozawa, 1994, pp. 32-36). It can be said that he could make a living without considering the West.

However, after three years of running his studio, he closed it and went to Tsukiji Daigakko (築地大学校), a mission school that mainly taught English. While he brushed up on his English, he made the acquaintance of other photographers and heard about photography in the West (Ozawa, 1994, pp. 38-40). Confident in his English and with his dreams about Western photography, he went to Yokohama and worked as an interpreter. Finally, in 1882, he got an opportunity to petition Captain Philip H. Cooper (1844-1912) to hire him as a sailor on the USS *Swatara*, with the aim of working in photo studios in America (Ozawa, 1994, pp. 47-48).

He worked at a photo studio run by Ernst F. Ritz and G. H. Hasting and learned photography while earning $3.50 a week (Ozawa, 1994, p. 51). However, he could not earn enough money for lessons or equipment. Asakuma Futami (二見朝隈, 1852-1908) learned of Ogawa's situation and hired him for his photo company, Choyosha (朝陽社). There, Ogawa introduced the latest techniques he learned in the States, such as the quick shooter, in the magazine *Shashin Shimpo* (『寫眞新報』) (Ozawa, 1994, pp. 54-57). It is likely that this experience formed one

of his ways of introducing and connecting the latest Western technology to Japan. In fact, he revived *Shashin Shimpo* after the bankruptcy of Choyosha, which was caused by embezzlement by an employee and brought about a financial crisis during Ogawa's study in the States (Ozawa, 1994, p. 57).

It was Shinsuke Mihara (三原親輔, year of birth and death unknown) who saved Ogawa from his financial troubles. He introduced Ogawa to Hiroitsu Sakakibara (榊原浩逸, year of birth and death unknown), and Sakakibara asked his former feudal lord, Nagamoto Okabe (岡部長職, 1855-1925), to support Ogawa. Okabe was willing to help Ogawa and sent money with an encouraging message (Ozawa, 1994, pp. 55-61).

In this way, thanks to all the support from friends and people he met there, Ogawa rapidly acquired the latest photographic skills, despite his difficult financial circumstances. He learned not only the latest photographic techniques but also made connections with other Japanese students who were studying abroad. In this period, most of those students were publicly funded. The costs were refunded or entered into the services of the officials after their return home (The Educational Department, 1972, p. 231). Briefly, those who studied abroad with public funds were candidates for future official posts. In fact, Okabe worked as an Administrative Vice-Minister of the Ministry of Foreign Affairs. Consequently, connecting with them influenced Ogawa's social status and photography in Japan. What he acquired from the foreign experience became an essential foundation for his activities promoting photography in Japan.

The Enlightenment Perspective in Ogawa's Story

William K. Burton (1856-99) was a professor at Imperial University whose *Modern Photography* has gone through seven editions. He was a good friend of Ogawa and published an article about him in a British magazine, *The Practical Photographer* (Checkland, 2002, p. 183). "A Japanese Photographer: The Difficulties That Had to Be Overcome in Former Times in the Land of the Rising Sun" told the story of a young boy whose father was a retainer of Lord of Castle Oshi but who lost membership of his 'proud military class' after the Meiji Restoration, which reformed the previous federal systems. The period is which young Ogawa was to find his way of life comprised "the years when a great portion of 'Young Japan' was first turning eager eyes to the West, and was looking to adopt Western civilization" (Burton, 1913, p. 63). Burton appears to describe Ogawa as an impoverished aristocrat who found his way into Western technology and enhanced his social influence, considering him representative of the "Young Japan."

It is worth focusing on how Burton refers to Kuichi Uchida (内田九一, 1844-75), who was a famous photographer of the time. Burton explains how Uchida sold his expensive photographs and photographic goods with detailed prices and how he made it difficult to learn photography through his high lecture fees and his secretiveness about his skills. He comments on Uchida's business strategy that he "must have made considerable hay whilst the sun of those times shone." "The sun of those times shone" is the time before Ogawa's "Young Japan" came to the fore. In contrast to the Ogawa of "Young Japan," Uchida is one of "The Difficulties That Had to Be Overcome in Former Times in the Land of the Rising Sun."

Burton mentions that Uchida was "the oldest photographer in the country, who had

learned it in the very old times from a Dutchman" (Burton, 1913, p. 63). He repeats the term "old" and conveys that Uchida's photographic technique was acquired in "very old times" and from the Dutch. By contrast, Burton notes that Ogawa learned the skill through "a book on photography in the English language." Burton gives the impression that the old skills from the Dutch were outdated and expensive, that new technology was coming through the English language, and that "Young Japan" achieved great success by it. The success of Ogawa came from a Western creation and from using things from Britain, such as the English language and Burton, who was from Britain. It would made the reader of the magazine feel that Britain "enlightened" Japan, in the OED's sense of the word: "To supply with intellectual light" and "To inform, remove (one's) ignorance of something" (OED, 1989, pp. 265-66). Uchida kept Japanese photographers in "ignorance," but Ogawa was supplied with Western photography, the "intellectual light," by British or American photographers rather than old Dutch or old Japanese photographers.

The Establishment of the Photographic Society of Japan

This enlightenment partly contributed to the setting up of the first association of photography in Japan, the Photographic Society of Japan, established in 1889. The founder of the group was Charles Dickinson West (1847-1908)[1] who was a professor at Tokyo Imperial University and a co-worker of Burton. According to the annual meeting report of 1890, the aims of the society were to "foster the interest of Amateur Photographers" (The Photographic Society of Japan, 1890, p. 2) and to "arouse greater interest amongst professional photographers, in the Scientific and the Artistic aspects of their work than they have, as a body, seemed to show in this country, as yet; — not by any means to the neglect of their Commercial interests" (The Photographic Society of Japan, 1890, p. 3). The latter citation indicates that some people in Japan were afraid of the negative effect of sharing photographic knowledge and information on "Commercial interests." It recalls Uchida in the Burton article, depicted as someone who kept his techniques secret so that customers had to pay quite a high price to learn them. In short, the society had as its goal to break the old system of photography in Japan.

The annual reports of the society were written in both Japanese and English. In the first revived volume of *Shashin Shimpo,* edited by Ogawa, West mentioned that "those kind of associations prosper actively anywhere in Europe. Therefore, I believe there are significances to have the group" (Okatsuka, 2014, p. 481). Making photographic groups like those of Western countries meant following the Western way of boosting photography. There were 65 members of the society in the first year, 33 of whom were foreign nationals; the group retained its internationalism over the years *[Fig. 1]*. The president of the group was Viscount Takeaki Enomoto (榎本武揚, 1836-1908), who had the highest social ranking of the membership. There were four vice presidents: Hiromoto Watanabe (渡辺洪基, 1848-1901), the first chancellor of Imperial

1) ——— The Japan Photographic Society, which still exists and was established in 1924 by Shinzō Fukuhara (福原信三1883-1948), a photographer and the first president of Shiseido (資生堂), is different from the association discussed here.

University; Dairoku Kikuchi (菊池大麓, 1855-1917), a professor at Imperial University; Okabe, who was a close friend of Ogawa; and William Sturgis Bigelow (1850-1926), a doctor and researcher into Japanese art and Buddhism. Although Burton was a secretary and West, one of the founders, was just a committee member, since they worked at the same university as Watanabe and Kikuchi, both had a strong influence on photography. According to the membership list, members had a variety of professions, such as photographer, merchant, captain, post officer, hotel owner, prefectural agent, and worker at a water service.

As for the Japanese members, Ogawa deployed his energies in activities that included demonstrating photographic methods or reporting on the activities of the associations in his magazine. Tokichi Asanuma (浅沼藤吉, 1852-1929), a merchant who had been dealing in photographic equipment from early times and had made a fortune, joined the association. Seibei Kajima (鹿嶋清兵衛, 1866-1924), a son of a business magnate, was also an important member. Burton wrote an article about him and described him as "the most enthusiastic amateur that it has been my privilege to meet anywhere" (Checkland, 2002, p. 184). His article was published in *The Photographic Times* on August 17, 1894.

While foreign members were varied in occupation, Japanese members were limited because of the high annual subscription of 2 yen and the high price of the photographic equipment. Consequently, a large number of them were of the upper class, who could afford the expense. Many of them had foreign experience, because there were Imperial instructions for them to be good roles models for the lower classes by positively absorbing Western culture (Ogawabara, 2006, p. 103). Learning Western culture was an obligation and for a good cause, and so the Photographic Society offered them the opportunity to learn it and to fulfil their duty. Foreign members of the association were welcomed by the influential classes, and it was an important task for the members of the association to promote photography to those classes.

The Exhibition of Foreign Photographs

The Photographic Society of Japan held meetings and introduced new photographic technologies and products. They also went on shoots and held demonstrations. Among their activities, one of the most notable events was the Exhibition of Foreign Photographs in 1893. This was the first exhibition of photos from foreign countries: 296 pictures from the London Camera Club and other photos from the United States and China were displayed in the old building No. 5, the building constructed for the National Industrial Expo. The fifth exhibition of the Meiji Association of Art (明治美術会) was held at the same time. Shun Uchibayashi points out that the Photographic Society of Japan decided on the site, expecting Prince Taruhito Arisugawa (有栖川宮熾仁親王, 1835-95) to visit the exhibition because he was the president of the art society and there was a possibility of his coming for the award ceremony (Uchibayashi, 2015, pp. 95-6). In fact, *Tokyo Asahi News* reported that Empress Shoken (昭憲皇后, 1849-1914) visited the exhibition ("Kougou Heika Ueno Gyokei," 1893). Ogawa had taken photos of her; the funeral of her husband, the Emperor Meiji (明治天皇, 1852-1912); and her son the Emperor Taisho (大正天皇, 1879-1926). It is possible that the exhibition enabled Ogawa to get closer to the royal families. The visit of the Imperial family would have been persuasive for the upper class to take

up photography.

Shashin Shimpo reported that the exhibition had two great achievements. One was to demonstrate the advances in photography outside Japan. In particular, works that were printed with bromide papers surprised the audience, for the Japanese had mainly used albumenized papers up to then. Ogawa recalls that he had previously thought that a bromide print was "dazzling and beautiful because it develops all in black, but it also made it less sublime and attractive because its colour is what is called cold colour" (Ogawa, 1893, pp. 49-50). However, when he saw works on bromide paper, he realized that "it has far wider range of colour variation" (Ogawa, 1893, p. 50) than he had imagined. He concluded that "the works from Britain are great models from the aspect of design and techniques" (Ogawa, 1893, p. 49). This suggests that the exhibition validated the technology's capacity for expression and that Britain was the leader to follow.

The other great achievement of the exhibition was that it displayed "great models" of "design," demonstrating the high artistic quality of photography. *Shashin Shimpo* commented that the photographs "drew attention to artistic point and raised artistic thought among photographers. Therefore, it is the best way to see these pictures in modern Japan where technology is developing" (Ogawa, 1893, p. 49). The exhibition sowed the seeds of artistic photography.

The Exhibition of Foreign Photographs brought Kajima to the fore; he was inspired by it to create a new photographic group in 1893, named the Greater Japan Photography Critique Society (大日本写真品評会) (Bennett, 2006, p. 238). All members of the Kazoku (華族), the Japanese nobility, became honorary members. Besides big names in Japanese photography, such as Kimbei Kusakabe (日下部 金兵衛, 1841-1934), many members of the Photographic Society of Japan, such as Asanuma, Burton, and Okabe, joined the group. Akiko Okatsuka suggests that some of the honorary members became a part of Kakokai (華光会), a photographic club for Kazoku that was founded later (Okatsuka, 2014, pp. 484-85). In this way, the Exhibition of Foreign Photographs influenced the way photographers saw pictures.

Kakokai published a coterie magazine called *Hana no Kage* (『華影』), which had a column, "Inga Hyo" (印画評), meaning "Reviews of Printings." The reviewers were Ogawa and Seiki Kuroda (黒田清輝, 1866-1924), an oil painter and a professor at the Tokyo School of Fine Arts. Atsushi Tanaka indicates that Kuroda treated photographs like paintings, as expressive works in which the photographer had calculated its composition, shading, and printing. In fact, Kuroda knew little about photography, but his perspective on nature was considered a sound principle for taking pictures (Tanaka, 2014, pp. 469-70). In this way, photography in Japan gradually came closer to the fine arts and deepened their relationship, especially after the exhibition. Ogawa was the first photographer to be elected as an official artist of the Imperial Household, alongside Kuroda who was the Imperial Household oil painter.

The Request from the London Camera Club

As seen above, the Exhibition of Foreign Photographs had a strong influence in many ways, but what is notable here is that the event was held because of a request from the London Camera Club. According to the annual record, the fact of the matter is that the Photographic Society

of Japan paid for all the transport, the venue, and the frames, and that the Japanese society lent the pictures to be exhibited. Its financial burden was so heavy that some members were concerned about a lack of funding, but they decided to charge an entrance fee and use group funds to make up for the shortfall ("Shashin Tenrankai," 1893, pp. 4-6). *Shashin Shimpo* often cited articles from British magazines about their latest techniques, productions, events, and associations. In addition, the most frequent writer of the magazine, who introduced the latest knowledge, was Burton. Consequently, it is possible that many readers of the magazine, that is, people who were interested in photography, had an image of Britain as being at the cutting edge of photography. Because the most advanced country had then decided that Japan should present its prized works, this show of confidence in the photography of Japan was worth bearing the economic liability.

Shashin Shimpo argued that the exhibition was held "to allow the wider public to see photography and to commit to advancing it." It was another way of demonstrating to the public that "one could enjoy [photography's] sublimeness" besides through publications ("Shashin Tenrankai," 1893, p. 4). Receipt of the request from Britain could offer powerful support for the claim that photography would connect the world, and it suited the needs of Japan, which wanted elegant models to follow. The exhibition was intended to preach the "sublimeness" of photography to the "public" while also aiming to enhance the perception of photography in Japan. Briefly, it appealed to both the upper class and other classes. Although the entrance fee limited the base of audience, it still played an important part in introducing a Western culture that was enjoyed mainly by the upper class, but also by the masses, since everyone could enter once they paid the fee.

Conclusion

Ogawa learned photography with his eyes turned to the West. He acquired the latest techniques and networked with Japanese students of influential status in America, and it provided the foundation for him to be a powerful photographer and to promote photography. Burton describes him as a boy who had lost his power as a result of the ending of the old system but who started to rise along with Western technology. He presents Ogawa as the symbol of the "Young Japan" rather than of the "New Japan," which implies that Japan should be taught by adults. In other words, Burton's article is a story of enlightenment from the West. The Photographic Society of Japan provides a good example of this enlightenment. It was the point of connection between foreigners and Japanese who were interested in photography. Most of the Japanese members belonged to the upper classes, and they were encouraged to learn Western culture. The Exhibition of Foreign Photographs is notable as an event of enlightenment. Displaying the latest photographs from outside of Japan demonstrated the potential of the new technology and the artistic nature of photography. It stimulated the pride of Japanese photographers and enabled them to exhibit photography to all classes. Enlightenment spread as the connection between different nationalities and social classes was made.

References

Asanuma & Co., Ltd. (1971). *Asanuma Shokai Hyakunenshi [The Hundred Years' History of Asanuma & Co.].* Tokyo: Asanuma & Co., Ltd.

Bennett, T. (2006). *Photography in Japan 1853 - 1912.* Tokyo: Tuttle Publishing.

Burton, W. K. (1913). "A Japanese Photographer: The Difficulties that Had to be Overcome in Former Times in the Land of the Rising Sun." In Ogawa Dousoukai *Sougyo Kinen Sanjunenshi [Foundation Anniversary for 30 Year's History]* (pp. 63-64). Tokyo: Ogawa Kazumasa Shuppanbu .

Checkland, O. (2002). W.K. Burton, 1856-99: 'Engeneer Extraordinaire'. In H. Cortazzi, *Britain and Japan: Biographical Portraits* (Vol. 4, pp. 174-186). Oxon: Routledge Society Publication.

Kougou Heika Ueno Gyokei [The Attendance of the Empress in Ueno]. (1893, 5 20). *Tokyo Asahi Shimbun [Tokyo Asahi News].*

Ogawa Dosokai [Ogawa Alumni Association]. (1913). *Sougyo Kinen Sanjunenshi [Foundation Anniversary for 30 Year's History].* Tokyo: Ogawa Shuppanbu [Ogawa Publishing Section].

Ogawa, K. (1893). Gaikoku Shashin Tenrankai [The Exhibition of Foreign Photographs]. *Shashin Shimpo*(46), 419-20.

Ogawabara, M. (2006). *Hyouden Okabe Nagamoto [The Critical Biography of Nagamoto Okabe].* Tokyo: Keio University Press.

Okatsuka, A. (2014). Meijiki no Shashindantai to Kazoku; Ogawa Kazumasa no jisseki karano kousatsu [The Photographis group and Kazoku in Meiji Period; Considerations from Achievement of Ogawa Kazumasa]. In T. N. Cultural, *Bijutsu Kenkyu [The Journal of Art Studies]* (Vol. 412, pp. 470-90). Tokyo: Independent Administrative Institution National Institutes for Cultural Heritage Tokyo National Research Institute for Cultural Properties.

Ozawa, K. (1994). *Syasin kai no senkaku Ogawa Kazumasa no Isshou [The Life of Kazumasa Ogawa: The Pioneer of Photography.* Tokyo: Kindai Bunmei Sha.

Shashin Tenrankai [The Photo Exhibition]. (1893). *Shashin Shimpo*(44), 3-6.

Tanaka, A. (2014). Kuroda Seiki ate Ogawa Kazumasa Shokan no Honkoku to Kuroda Seiki no Shashinkan [Reprinting Letters from Kazumasa Ogawa to Seiki Kuroda and the Photographic Perspective of Seiki Kuroda]. T. N. Properties, *Bijutsu Kenkyu [The Journal of Art Studies]* (pp. 468-78). Independent Administrative Institution National Institutes for Cultural Heritage Tokyo National Research Institute for Cultural Properties.

The Educational Department. (1972). *The Hundred Years' History of the Educational System.* Tokyo: The Educational Department.

The Photographic Society of Japan. (1890). *Report of the Annual Meeting of the Photographic Society of Japan for 1890.* Tokyo: Tokyo Tsukiji Kwappan Seizo-sho.

Uchibayashi, S. (2015). *Kaiga ni Kogareta Shashin: Nihon Shashinshi niokeru Pikutoriarizumu no Seiritsu [Photographs that Yearn for Paintings: The Establishment of Pictorialism in History of Photography on Japan].* Tokyo: Shinwa Sha.

Weiner, J. S. (1989). *Oxford English Dictionary.* (J. S. Weiner, Ed.) Oxford: Clarendon Press.

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Yuki Shimizu is a Ph.D. student at Tsuda University. While studying Lafcadio Hearn at Kochi University, she

became interested in the Western perspective on Japan. She started to focus on travel writing and for her MA thesis at Okayama university wrote "Isabella Bird's Unbeaten Tracks in Japan: Travel Writing and Imperialism." After graduation, she felt the need to experience the culture directly and decided to take an MA at the University of Leicester. She studied how the Victorians perceived Japan in their literature, plays, and arts, producing "Victorian Imaginary Perspective on Japan." She is now deepening her study at Tsuda University and researching the relationship between Britain and Japan as seen through guidebooks and the processes of producing them.

Kohei Sugiura and Kirti Trivedi: Capturing Asia as Transnational in Four Dimensions

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Abstract

Sugiura Kohei, a leading Japanese graphic designer, describes in his book, *Nihon no Katachi, Asia no Katachi*, his experience of overlapping a decorative pattern he saw at a temple of Tibet Buddhism in Bhutan with a picture of a kite he was looking at in a catalogue. He has been interested in the multilayered symbolism found in the Asian countries, and has introduced to the Japanese audience the Asian traditional culture through innovative exhibitions and exhibition catalogues.

At the same time, Sugiura has been active in India since 1981. He was first invited to the Industrial Design Centre (IDC), Indian Institute of Technology (IIT) in Mumbai under the aegis of UNESCO's Development Programme as a Visual Communications expert to advise on design pedagogy. He delivered lectures and workshops in 1981 and 1983. Kirti Trivedi, a design tutor at IIT visited Sugiura in Japan as a UNESCO Fellow in 1981 and returned to Mumbai with plans to further the Visual Communications Programme.

More than three decades on, Trivedi and Sugiura continue to collaborate, forming a pan-Asian creative alliance. Both designers reflect on their own traditional art forms and produce a narrative of similarities, of deep-rooted and established historic links that formulate an 'Asian' present. The paper explores this contemporary pan-Asianism in action based upon the two local traditional design cultures globally connected.

Keywords: Sugiura Kohei, Kirti Trivedi, pan-Asianism, design education

Introduction

Sugiura Kohei, a renowned graphic designer born in 1932, describes in his book, *Nihon no Katachi, Asia no Katachi* (Japanese Forms, Asian Forms, 1994), his experience of overlapping a decorative pattern he saw at a temple of Tibet Buddhism in Bhutan with a picture of a kite he was looking at in a catalogue. It was a shocking discovery to him to find such similarity in them beyond geographical borders (Sugiura: 1994, 194). Since then, he has been even more interested in the multilayered symbolism found in the Asian countries, and has introduced to the Japanese audience the Asian traditional culture through various media including innovative exhibitions.

This paper focuses on how Sugiura nurtured his enthusiasm for Asian design, and how he has understood and made sense of the characteristics of Asian design. Also, he has built practical relations with Asia through his educational activities, in particular with Kirti Triveti in India since the 1980s to the present day. Trivedi and Sugiura's collaboration highlights a long-term shared commitment to develop design thinking that is distinctly Asian. The spirit of pan-Asianism within artistic and design production, as well as education has a long tradition dating back to the early twentieth century. The underpinning political agendas, however, have changed over time, reflecting Asia's relationship with the West. The paper argues that their collaboration can be viewed as a step to deconstruct the past pan-Asianism represented by Kakuzo Okakura, to de-centralise the discussion of Japan's 'oriental orientalism' and 'self orientalism' in the post-war period, and to find a way of understanding Asia as synchronic as well as diachronic accumulation of transnational and translocal cultures.

Asian Awakening at Ulm School of Design

Sugiura is notable in that while most contemporary Japanese leaders in most of the fields including academics and artists looked to either Europe or America for models rather than looking into Asia itself, he was quite early in realizing its significance. But he also looked to Europe once. In fact, the beginning of his awakening to Asia was his experience of design education at then the most innovative centre of modern design education, the Ulm School of Design in West Germany, from 1964 to 1967. He was naturally astonished to learn all the brand-new approaches to discuss design, such as cybernetics, semantics and information theory, as he felt the rest of the world was living almost 10 to 20 years behind Ulm School in design theories and education.

But this did not lead him simply to admire and blindly follow the European movement. There he was faced with a very different logic. To him, everything in Germany had to be answered in either a yes or no, and there was no possibility of in-betweenness. He was puzzled as he believed that things cannot be so clearly divided as the Western patterns of argument forced him to. During his stay in Germany he even got the nickname, 'PERHAPS', because people thought he always avoided seeing things in either black or white. Avoiding clear-cut logical decisions came from his belief that 'it is the easiest thing to say either yes or no, as life is much

Fig.1 Leaflet of the exhibition organized by Sugiura

deeper' (Sugiura, 2010: 256-259). And this made him reconsider the contemporary society in which the Western ways of logical thinking prevailed. He talked on the Western-Asian differences endlessly with some other designers from Asian countries also studying there. This was his very first material relationship built upon Asianness.

Having deeply felt the fundamental difference between Europe and Asia at the Ulm School, he returned to Japan. He soon began to expand his practical relations with Asia, through receiving students from India and Korea. They were students of trainee designers he had made very good friends with at the Ulm School where they had studied and discussed ideas together.

His next definite move was to travel across Asia. He visited India for the first time in 1972, and was completely taken away with the richness of its visual culture. Significantly, he has always been conscious that by going to India he would deepen the understanding of Japan as well as India. He began energetically producing books and holding exhibitions on the pan-Asian design history based on his experience and research. For example, he published *Asian Cosmos and Mandala,* in the 1980s and also organized an exhibition with the same title (Sugiura, 1982). The exhibition's main significance was to reunite the esoteric Buddhist teachings born in India, and now surviving in Tibetan cultural spheres and Japan after one thousand years. Here he began his journey of inquiry from India's 'Gusharon (abhidharma Storehouse Treatise)', his goal was Mt. Fuji in Japan, and the road of the journey was the geographical process of idealization of Mount Meru (considered in Buddhism as the mountain located at the centre of the world) prevalent in Asia. The exhibition was composed of two parts: Cosmos and Mandala *[Fig.1]*. Cosmos represented the vertical image of Asian space, and Mandala represented the horizontal image, and where the two axes meet, the whole three-dimensional image of the Asian space was to emerge. From here, Sugiura deductively explains why the Japanese have an almost religious feeling towards Mt. Fuji: the idea of Asian Cosmos has partly flown into the Japanese mentality via China, Thailand and other Asian countries over time, and has formed this deep-rooted feeling towards the highest mountain in the country.

Asia as the World of 'Multiple Subjects' and 'Anonymity'

One of his significant findings about Asia is that he regards it as the world of 'multiple subjects'. In the Western discourse, the subject is decisive and grammatically secures its place at the beginning of the sentence. However, in Japanese this is not so and he feels that when he talks about something he is not just simply referring to 'I' as the only subject, but to everything in the world

vaguely connected with himself, even including numerous things that had existed before him in the past (Sugiura, 2010, 268). The idea that everything links and forms a network, and that every knot of the network is the subject, and such networks overlaps with one another....This is the opposite way of understanding the world where always 'I' stands out like in the Western countries. Since its re-opening to the world in the Meiji Era, Japan has imported this 'I'-centered system as a part of modernization and rationalization, but Sugiura has come to criticize it as the 'destructive Westernism' (Sugiura, 2010, 269).

Another concept that characterizes Sugiura's view on Asia is 'anonymity'. Most of the forms or representations seen in the visual material are created by anonymous people. Great forms and decorations attached to festival cars, for example, are the mixture of people's pious prayers and their belief in life. All the anonymous shapes and representations are being used in the traditional things and ceremonious goods for centuries. Here, Suigura asks 'why' anonymity has never bothered Asia as far as decorative motifs are concerned. He has come up with one possible reason that, 'these forms have been made by the anonymous people from the past to the present, who lived and died and reincarnate anonymously. The forms have been created by the hands of all these people, and by their hearts'. And another possible reason is that 'these forms are not the fine art objects simply for decoration. These consist of people's prayers for peaceful lives and rich harvests, and therefore these forms have spirits' (Sugiura, 1994: 154). All the motifs lead to the representation of natural power of living creatures: the tree of life, the arabesque, the swirling motifs, etc. These forms are 'beyond individuality' and 'beyond self' (ibid). This, like the idea of 'multiple subjects', is opposite to the Western idea of individual expressiveness or originality in visual culture.

Sugiura's idea of Asia with 'multiple subjects' and 'anonymity' rejects any fixed centralization in Asia. That is why neither oriental-orientalism nor self-orientalism applies to his ideas. And it has led him to be open to the diversity of Asian design, which he has experienced in India at first hand.

Sugiura and India

Sugiura's fascination and interest in Asian culture and design is evident in his collaboration with Kirti Trivedi, Professor of Design at the Industrial Design Centre, India Institute of Technology (IIT) in Mumbai, India. This collaboration took seed in 1981 when Sugiura was invited to form part of an expert consultation team at IIT facilitated by UNESCO and funded by the United Nations Development Programme (UNDP). The objective of this UN project was 'to improve the quality of industrial design through the improved training of designers' (*Industrial Design Centre, India Institute of Technology (IIT),* 1985: 2). This could be achieved by 'strengthening on-going courses' and by 'expanding and diversifying the existing training courses of the Industrial Design Centre, to meet and enable it to meet the industrial design needs of both public and private sectors' (ibid). The existing curriculum had focused on industrial production and communication. The expansion of the curriculum involved the inclusion of specialist design training such as furniture and leather goods design, as well as visual communication (ibid). Providing consultancy services and staff training were two of the main implementation

strategies, both of which Sugiura contributed to. IDC had been established in 1968 by the Indian Government's Ministry of Education. Its purpose was to enable the study of environmental design problems in industrial production and communication. The need to expand training facilities in industrial design and visual communication was subsequently identified in the late-1970s. This expansion was seen as a crucial aspect of industrial development by UNESCO and UNDP.

The ideology underpinning this development linked Indian tradition with technical modernity and Sugiura was identified as one of the eighteen experts to be invited to provide consultancy on this project. Sugiura's work echoed this projected ideological position in the mission statement. Since the 1960s, he was concerned with traditional forms of design from Japan, China and India, adapted for modern forms of visual communication (books, magazines, posters). He visited IDC in 1981 and 1983, delivered lectures on 'Process of Development in Drawing' and 'Unique Examples of Japanese Picture Books for Children', which were accompanied by displays of Japanese children's books. He conducted a seminar 'Designing for Children', workshops on publishing for children and one on 'Paper as a Microcosmos', which also included a demonstration of origami (ibid, 29). These activities with IDC staff and students highlight his contribution to Visual Communication at the institution during these years, which has left a legacy in design thinking. His distinct emphasis on Japanese design introduced his Indian design audience to considering non-Western practices of visual communication. Similar to Sugiura, IIT's senior academic and founder of IDC Sudhakar Nadkarni studied at the Ulm School between 1962-66. Ulm philosophy had formed the basis for education in the early days at the IDC, but this changed in the early 1980s when design research and pedagogy at the Institute increasingly looked to Indian forms and design traditions for inspiration.

Between March and December 1981, Trivedi undertook the UNESCO Fellowship under the mentorship of Sugiura. He visited his Design office in Tokyo, as well as museums, art galleries and universities. He also visited Hong Kong and Seoul on this trip and observed Product Design and Design Education in the two cities. The Fellowship resulted in one key recommendation: that the curriculum at IDC provide a 'complete design approach' and 'disciplines of Environmental Design, as well as inputs in Cultural Anthropology, Bio-Sciences, Management and Behavioural Sciences should be added' (ibid, 54). This step towards diversifying the curriculum from Product Design highlights Trivedi's input in the development of design pedagogy in India, formulated through site visits and his collaboration with Sugiura. The UNESCO/UNDP development project's outcomes included changes in curriculum, commencement of research projects in design solutions, launching publications, employing new staff, forging industry links and purchasing technological resources. All of these were formulated through links with national and international experts in design. Responding to Indian design problems by considering Indian design traditions and modern technologies did form the design ethos at IDC during these years. Examples of research and pedagogic projects during the early 1980s include: studies of Indian product design tradition; the Devanagari typeface design and development of a bicycle for rural transportation. The shared ideology and approach to design, however, linked Trivedi and Sugiura beyond the UNESCO project. It was during these years of collaboration that each studied design through the lens of cultural practices and histories – both

their own and the other's. While the purpose of this collaboration for Trivedi was primarily driven by the agendas set by IDC's stakeholders: the funder, the Indian Government and the academy, these meetings would formulate the idea of 'Asian' design for him. Sugiura had a profound influence on Trivedi's thinking on Asian design: its shared philosophies, visual symbolism and design forms.

Sugiura and Trivedi's collaboration in recent years shows a maturing of their shared interest in Asian design. Trivedi planned and organized the exhibition *The Way of Asian Design* for the Singapore Design Festival 2007 *[Fig. 2]*. Singapore, for Sugiura is a 'multinational city state', a melting pot of Asian culture: Chinese, Indian, Malay, Islamic, Indian and western, and was the appropriate location for this exhibition, which showcased his books and magazines (Trivedi, 2015: 23) The philosophy he cites in relation to this body of work 'two in one, one in two' alludes to Yin and Yang's polarized opposites and their unification (ibid). It is this philosophy, he argues, is where Asian cultures overlap. He sees the form of the book as a medium that can draw upon this principle, formulating a distinct, non-western form of design. Similarly, Trivedi sees concept-driven Asian design as the future of modern design, particularly, in the digital sphere, 'revitalizing it and giving it a much needed depth' (Trivedi, 2007: 171). He adds that in the western design tradition, the object evolves from an exploration of the physical, the material possibilities and its function. Whereas in the eastern tradition, this is driven by ideas and form is given to a concept (ibid). Trivedi hosted another exhibition of Sugiura's work at the Tao Art Gallery in Mumbai in 2015 titled *Kohei Sugiura: Graphic Design Methodology and Philosophy,* highlighting Sugiura's return to India and long-standing relationship with Trivedi.

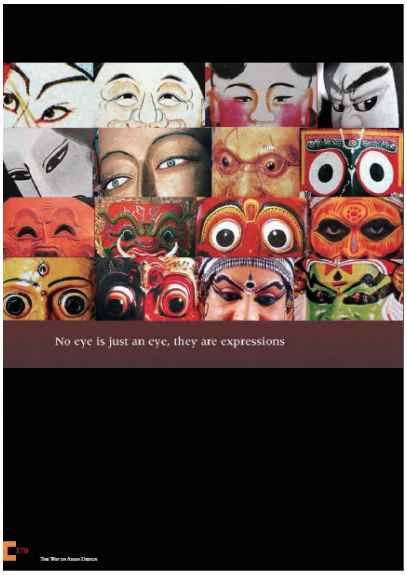

Fig.2 Page from exhibition catalogue *Asian Design* showing representations of facial expressions in performance art in Asia

Collaboration: Institutionalizing Asian Art and Design

The collaboration between the designers has impacted on thinking in design pedagogy in recent years. Sugiura established the Research Institute of Asian Design at Kobe Design University, Japan. The institute 'aims to rediscover vital formative arts in Asia, where rich and traditional cultures, which are different from Western culture, are still rooted in daily life, and to establish "Asian Design" based on its unique usage'. They maintain that '(T)hrough research on such projects as "Asian headgear," "Asian plants and trees," "Asian spirals" as well as the already launched study on "Asian floats," we will reaffirm the values and meaning of the vast number of formative arts embraced by Asian cultures to use them in modern art'(Kobe Design

University Research Institute of Asian Design). Supported by Sugiura's enthusiasm on the subject it has held a number of significant events and published the outcome of the discussions that took place there, covering as wide a topic as Asian symbols (birds and snakes), Asian festival cars, the tree of life symbols, Asian traditional ceremonies, architectural columns in Asian culture and crowns in Asia.

In India, Trivedi introduced modules such as *Indian Design Tradition* and *Indian Thoughts and Traditions* to the IDC curriculum and helped establish the Centre for Asian Art & Design at the School of Art, Design and Media at the Nanyang Technological University in Singapore in 2011. He calls for a rethink of design education, where a 'preoccupation with physical and the superficial; and the structured, curriculum-based, fragmented teaching...are just too constraining for any real learning and understanding to occur'(ibid, 177). He proclaims:

> A New School of Asian Design in required: a place where one would learn by living with the Masters and the Monks, the Philosophers and the Practitioners, the Planners and the Programmers. It will be a community where the ancient wisdom and the future possibilities will co-exist, in an atmosphere of creative excellence (ibid).

This vision of a new design school shows its rootedness in an identity that, for Trivedi, in the 1980s was Indian (in his quest for a suitable Indian design education) but has translated to one that is pan-Asian. This expansion of a meta-geography shows an ongoing search for new ways of teaching design.

Grasping Pan-Asian Visual Culture in Four Dimensions

Sugiura's interest in Asian tradition and design should be read within the context of Japan's longstanding relationship with Asia (particularly, India) and the West. Indian and Japanese cultural collaboration dates to the early twentieth century, amid the escalation of anti-imperialist sentiment and the rise in *swadeshi* ideology (indigenous-ness) in India. Several Indian cultural figures such as Rabindranath Tagore, artist and poet, and philosopher Swami Vivekananda had close links with Japanese art critic and educationist Okakura Kakuzo Tenshin. The Tagores and Tenshin shared the same political views on Western art education, which had been introduced in British India as well as in Japan during the Meiji Period. They both saw it as devoid of the spiritual, as materialist and commercial, that had trampled upon Indian and Japanese forms of art (Mitter, 1994, 262-3). This formed the basis of a new pan-Asian identity, rooted in anti-imperial and nationalist politics. Asia was posited by both: the European imperial powers and the Asian thinkers, as the opposite of the materialist West. For the Europeans, this meant non-rational and an emotional Asia. For the Asians, the polar opposite of the rational West meant a spiritual Asia. A revisiting and re-envisioning of design education with Asian spirituality at its core, formed a key part of the anti-Western position assumed by the Tagores and Tenshin.

These civilizational differences and a process of self-orientalization have continued to be formulated by our designers Trivedi and Sugiura, highlighting an ongoing interest in a pan-Asian identity. And yet, their pan-Asian value is something beyond Okakura's assertion of 'Asia as one' in the pre-war years or oriental-orientalist view of 'Japan in but above Asia' of the post-

war years. Instead of putting Japan at the centre of Asia, like Japan as responsible for or entitled to establishing 'a museum of Asiatic civilization' (Okakura) because it has never been invaded from foreign nations, Sugiura's emphasis is on the 'lineage' of historical, material and cultural communication accumulated in and around Asia.

This roughly coincided with the emergence of Asianism in Japan in the 1990s that aligns with an attention to Asian markets, against a backdrop of other regional formations: the European Union and the North American Free Trade Agreement. The process of globalization and a recognition of a modernizing Asia, Koichi Iwabuchi has argued, has led Japan to enter a transnational relationship with a new Asia, no longer backward, highlighted by the 1990s slogan '*Datsuō nyūa*', 'Escape the West, enter Asia' (Iwabuchi, 2002: 14).

Likewise, India's increasing outreach to Asian markets and in particular, strategic partnership with Japan since 2009, indicates diplomatic agreements fostered by both nation states (Mancheri, 2005). The formation of transnational relationships at the behest of economic and cultural relations, certainly have repercussions in design advocacy and policy. The vision for design pedagogy, as imagined by Trivedi, proposes a balancing act between 'Indian' 'Asian' and 'Western' values, in order to design a new way of teaching design in a global world within Asia, and thus avoiding the danger of falling into the simple 'brand nationalism'.

Conclusion

In the 21st century, Sugiura's attempt is beyond imperial nostalgia, just as Trivedi's is beyond brand nationalism. Sugiura researches diachronic histories of visual symbols. His synchronic collaboration with Trivedi are intellectual and practical attempts to liaise Asian localities beyond boundaries and to recall and reactivate an Asian mentality in modern design. Helped by his collaboration with Trivedi, his argument that 'time' and 'past' are together with the present visual culture, could be described as transnationality of Asia in four dimensions. The two institutions in Japan and India, dedicated to this Asian transnationalism and their practice of looking at the past as well as the future, means they will never be static 'museums' in Okakura's sense. Instead, they provide concrete milestones towards understanding Asia as synchronic as well as diachronic accumulation of transnational and translocal cultures.

References

Industrial Design Centre, India Institute of Technology (IIT), Bombay. Paris: United Nations Educational, Scientific and Cultural Organization and United Nations Development Programme, 1985. FMR/SC/OPS/85/204. Accessed July 7, 2017 unesdoc.unesco.org/images/0006/000649/064990eo.pdf

Iwabuchi, Koichi (2002) *Recentering Globalization: Popular Culture and Japanese Transnationalism*, Durham: Duke University Press.

Kobe Design University Research Institute of Asian Design http://english.kobe-du.ac.jp/riad/

Mancheri, Nabeel, "India's Deepening Relations with Japan" *Asia Forum*, 25 February 2010. Accessed April 30, 2017 http://www.eastasiaforum.org/2010/02/25/indias-deepening-relations-with-japan/.

Mitter, Partha (1994) *Art and Nationalism in Colonial India, 1850-1922: Occidental Orientations*, Cambridge:

Cambridge University Press.
Okakura, Kakuzo Tenshin (1903) *Ideals of the East*. London: J. Murray.
Sugiura, Kohei (1982) *Asia no Cosmos + Mandala.* Tokyo: Kodansha.
Sugiura, Kohei (1994) *Nihon no Katachi, Asia no Katachi*. Tokyo: Sanseido.
Sugiura, Kohei (2010) *Tashugoteki na Asia*. Tokyo: Kosakusha.
Trivedi, Kirti (2015) *Kohei Sugiura: Graphic Design Methodology and Philosophy*, Mumbai: Adarg.
Trivedi, Kirti (2007) *The Way of Asian Design*, Singapore: NTU and Trevue.

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Love-hate Relationship with National Identity and Global Influences: A Brief Review of Design Education in the Sinophone Region

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Abstract

"Modern" design histories in the Sinophone context began developing in the late nineteenth century through the cultural translation of Western cultures. The term "design" itself has raised intricate questions that are currently under investigation, reflecting an interest in cultural translation of design and transnational studies within postcolonial studies. In this background, the author articulates the complexity of "national" identity and global influences in the development of design education from the 1950s onward in the Sinophone region, which includes the People's Republic of China, Taiwan, Hong Kong, and Macao. Taking historical and transnational perspectives, this paper reviews what design educators in the region have struggled to learn from the "foreign barbarians" while establishing a "national" identity for political and pragmatic purposes as well as cultural and ethnic security needs. In the context of Sinophone design education, this paper aims to reveal the conflicting love-hate relationship between the notion of nationalism and the condition of Sinophone modernity. The author concludes this paper by illuminating conflicts and contradictions that arise in attitudes toward such embodiment in order to underline the role of design education in the construction of national design identities, our understanding of Sinophone modernity, and the cultural translation of design.

Keywords: Nationalism, national design identity, colonial modernity, design education, Sinophone modernity

Introduction

"Modern" design histories in the Sinophone context began developing in the late nineteenth century through the cultural translation of Western cultures. The term "design" itself has raised intricate questions that are currently under investigation, reflecting an interest in cultural translation of design and transnational studies within postcolonial studies. Questions on topics such as the modernization of China in modern history, debates about modernity in China (Valentine, 2006) and colonial modernity in East Asia (Barlow, 2012) pose a fundamental, conceptual framework for grand narration and inquiry. Design education provides excellent material for the inquiry of such questions. Due to a lack of space in my presentation for a full inquiry, I am borrowing a straightforward definition for "modernization" from the Oxford Dictionary—"the process of adapting something to modern needs or habits" (Modernization, n.d.)—to question the pragmatic and emotional complexity of design education history under the influence of Western cultural translation in the Sinophone speaking region.

This paper argues that the development of design education in the region is a process of choosing between national identity and global influences for the modern needs of the country building. As the smallest player in the region, Macao is regrettably omitted from this investigation due to its short design education history, and its near invisibility in research publications. Greatly influenced by Hong Kong, Macao's first post-secondary design education program started in 1993, and I hope that this paper will peak the interest of Macanese educators to establish a history of the city's design education for the future.

Within this limitation, my paper debates that the three locales that comprise the Sinophone region in East Asia—China, Hong Kong, and Taiwan—experienced different love-hate relationships with national identity and global influence in their design education histories in a period stretching from the Second World War and until today. Despite a shared cultural heritage, the three places took divergent development paths. In China, political campaigns between the 1950s and the 1970s meant that design education repeated itself. As for Hong Kong, the government employed a strategy of encouraging people to forget their past memories to keep the colony going, and working hard for the future. In Taiwan, the Sinophone region's only democracy, the construction of a national identity in design education is determinedly emerging, and has become a global conversation tool.

Design cultures scholar Javier Gaimeno-Martinez cites a quote on national identity from geographer Jan Penrose: "the concept of nation is the product of three elements: a distinctive group of people, the territory which they occupy, and the bonding over time (of historical experience) which melds people and land" (Penrose, 1995, p. 406, cited in Gaimeno-Martinez, 2016, p. 15). This paper testifies to three national identities by reviewing a brief history of design education, which represents different experiences of Sinophone modernity for transnational studies and cultural translation.

The circle game of design education: China

In the ancient Chinese context, *gongyi* (工藝) is the general term equivalent to the word "design" in English. Design scholars in the People's Republic of China (PRC) refer to a "design" heritage that dates to the Neolithic Yangshao culture, around 5000 to 3000 B.C., while hesitating to accept the foisted Western definition of design in the Chinese context. However, the government can't deny that modern design genres entered the Chinese context with the introduction of Western technology and practices between 1839 and 1911. Hong Kong design scholars Kwok and So (2007) acknowledge that the birth of Chinese modern design history dates to 1842, the year when the Qing Court signed the Treaty of Nanking with the British Empire after it defeated China in the First Opium War (1839-1842).

The Self-Strengthening Movement (1861-1895)—the reforms carried out by the Qing Court with the principles of *zhongti xiyong* (中體西用 Chinese learning for fundamental principles and Western learning for practical applications)—has always served as the guiding proposition for China's modernization. Education for and practices of Western arts, crafts, technical training, and modern manufacturing industries has continuously flowed into China since 1842. In 1864, for example, the Tushanwan Art and Craft Center was established in the outskirts of Shanghai to provide vocational training in Western art and craft to children at the orphanage (Pan, 2008).

Despite the efforts of pioneer artists and intellectuals, general people found Chinese traditional art and craft less desirable than Western products in the early twentieth century. Feng Zikai (豐子愷 1898-1975), an important artist and essayist in the Republican period (1912-1949), advocated for the aesthetic values of traditional handicrafts (工藝實用品與美感) and voiced his discontent over mass–produced imitation products during the 1920s (Feng, 1926). Similarly, Lei Guiyuan (雷圭元1906-1988), one of the three most important early modern designers in China's design history, also wrote of Chinese designers imitating Western art and craft and the associated disinterest in studying the national style and content in industrial and commercial arts in China (Lei, 1937).

In this new phase of Chinese modernity between 1912 and 1949, the New Culture Movement (新文化運動) with intellectuals calling for the ideology of new nationalism; the concept of a nation and national identity was emerging in China. The Movement's impetus derived from desires of national self-strengthening based on the social, cultural, and economic conditions of the period. For its followers, it represented traditional national salvation, democracy, and science, and could be considered as a self-defined modernity within the Chinese context for the first time.

Mao Zedong's (毛澤東 1893-1976) famous 1942 speech, *Talks at the Yan'an Forum on Literature and Art*, set the tone and developmental direction for the nation's creative media and education after the Chinese Communist Party gained control of the country in 1949. The speech stated that all arts should serve the working class and promote the advancement of socialism and the Party. This background and China's close diplomatic relationship with Soviet Union meant that the Soviet skill-based curriculum and the political ideology of Marxism-Leninism

and Maoism shaped the art and craft education in the PRC. In resisting against Western ideologies, handicraft (手工藝), traditional gongyi (傳統工藝) and folk gongyi (民間工藝) became the three key foundations of *yishu sheji* (藝術設計 art and design) education in the newly established People's Republic of China.

Between 1949 and 1963, the Chinese government opened thirty-three art education units and seven art academies. Among them emerged three key institutions that were directly administered by the central government: China Central Academy of Fine Arts (中央美術學院 1950), Central Academy of Arts and Design (中央工藝美術學院 1956, now under Tsinghua University 清華大學), and Zhejiang Academy of Fine Art (浙江美術學院 1958, now the China Academy of Art中國美術學院). In tandem with other arts academies, these three institutions led the development of design education for the service of the working class, with the political goal of advancing folk decorative art (民間裝飾藝術) and national art (民族藝術). Except for Soviet arts, commercial work deemed Western art and design to be evil. In contrast, *gongyi meishu* (工藝美術) was viewed as handicraft and as an applied art throughout this period until the reevaluation of design education after 1979 (Tsinghua University, 2010).

In March 1998, the Ministry of Education officially adopted the term *yishu sheji* (藝術設計) as the replacement term for gongyi meishu. This adaptation implied the abandonment of the pro-socialism and pro-tradition approach for design education. It also represented a search for new possible directions in modern design education for a nation that started all over again with basic definitions of design in the 1980s. Between 1995 and 2005, design education in China experienced a rapid expansion. By 2004, China had more than 30 specialized art academies and the government had established more than 600 yishu sheji programs (Tsinghua University, 2010). One statistic indicates that about 1.1 million students were studying design or enrolled in a design related program in 2007 (Xu, 2009). With such a rapid expansion, the standard for design education was criticized for a lack of quality assurance in programs, inferior teaching quality, and poor facilities as well as an overlap of programming within the same institutions (Yuan, 2003).

Moreover, in the era of globalization, Chinese youth and designers have gradually encountered American and Japanese contemporary cultures, including hip-hop culture and the idea of being "cool." The designers of the generation from the 1980s believed in the cultivation of Chinese national design identity, as reflected in a poster designed by Chen Shaohua (陳紹華 b. 1954) for *Graphic Design in China* (平面設計在中國) design competition in 1992*[fig. 1]*. Unlike the previous generation, contemporary young

Fig.1 Graphic Design in China. Designer: Chen Shaohua, 1992.

designers have ventured to break away from the expectation of upholding national identity in their works. The Chinese government does not, however, allow its culture to become Americanized, Westernized or Japanized, and its officials consider the Chinese design identity as a symbol of the nation. For cultural security reasons, China instills nationalism in all aspects of culture and design education.

The government's efforts to develop design professions that uphold Chinese national identity have motivated designers and design students to redefine the contemporary Chinese design identity in their work at school as well as through nationwide design competitions and events. Research findings by Tsinghua University scholars recognize the importance of establishing a vernacular design style as part of national design identity for effective two-way communication with the global design community (Tsinghua University, 2010). While we can observe a yearning for China's own national design identity, some Chinese design educators have developed joint programs or other forms of engagement with foreign design institutions and educators to attract students and to stand out from the competition. For example, the College of Design and Innovation of Tongji University in Shanghai began collaborating with Aalto University in Finland and the resulting cooperation led in 2010 to the establishment of the Tongji-Aalto Design Factory as well as the Tongyi University Sino-Finnish Center. The College is also proud of its International Advisory Board that consists of renowned designers and educators from all over the world, including Nigel Cross, Ezio Manzini, Ken Friedman, Richard Buchanan, Don Norman, and Kun-Pyo Lee.

On another occasion in 2011, the Hangzhou City Government contributed about 55 million euros towards the purchase of German Torsten Brohan's collections of 7,010 pieces of early European modern design work, including classic pieces from the Bauhaus—a German art school that played an important role in design education history of the world. With the collection, the China Academy of Art in Hangzhou set up the Bauhaus Institute in May 2011 with city government support (China Academy of Art, 2016). Over 300 pieces from the collection were displayed at the newly built China International Design Museum (中國國際設計博物館) in 2014 for design education purposes (Design for Enlightenment, 2014). City officials and the academy justified allocating their public funding to this purchase for the study of Bauhaus' contribution to the enlightenment and the formation of modern design and modern lifestyle.

Although Lin Fengmian (林風眠 1900-1991), pioneer artist and the first president of the China Academy of Art, advocated in the 1930s for the necessity of balancing Chinese and Western art for the rebirth of contemporary oriental art, Western design, once introduced to China in the early twentieth century, was ironically abandoned under the national political ideology guideline. This purchase of Bauhaus work is, however, reflecting the value of Western design in a recent context despite a thirst for the continued development of a Chinese national design identity. Or, maybe it is still too much of a political taboo at this stage to engage in historical and critical investigations of modern design development between 1949 and 1990 for the benefit of design education in China.

Forget the past and work hard for the future: Hong Kong

Compared to China's struggle to develop its own modern design and design education, the British colony of Hong Kong faced fewer challenges in the development of its design identity. Despite its shared heritage with mainland China, Hong Kong saw the growing bonds of people living in the colony and sharing common experiences over time, particularly since the end of the Second World War. With changes in the political regime in mainland China, migrants came to build a new life in Hong Kong. The Hong Kong colonial government adopted a laissez faire policy with little interference over the population's lifestyle choices. It encouraged newcomers to leave their pasts behind in the mainland and work hard for their future in Hong Kong. Here, the government created policies to promote the development of a Western lifestyle and education in a subtle way.

In terms of art and design education, Hong Kong was always an alternative place for artists who received their training in mainland China to make their living. Before the outbreak of the Second Sino-Japanese War (1837-1945), art activities and education were not professionalized. For example, we can find only limited examples of private art academies run by Chinese artists that provided both Western and Chinese art training during this period: the Hong Kong Fine Arts School (香港美術學校, 1928), the Hong Kong International Academy of Fine Arts (香港萬國函授美術專科學院, 1932), and the Kowloon Academy of Fine Arts (九龍美專, 1937) (Lai, 2015). As some of these academies engaged with renowned artists from the mainland or those who were educated overseas, Hong Kong was a place with freedom of creative expression and a refuge from the political pressure of the mainland.

After the Second World War, Hong Kong once again provided shelter from the civil war between 1946 and 1949 for both pro-Nationalist and pro-Communist artists. Following the establishment of the PRC in late 1949, some artists remained in Hong Kong and ran private fine art academies. Among the prominent institutions was the Hong Kong Academy of Fine Arts (香港美術專科學校), which was founded in 1952 by Chan Hoi Ying (陳海鷹1918-2010), a renowned artist of the period (Lai, 2015). To establish a private education institution in the colony, proprietors were required to register with the government. This can be considered as a colonial government strategy to monitor the nature of the academies and to prevent pro-communist activities. In the post-war era, however, the government became more committed to setting up its own public art and design education at the post-secondary level; it recognized graduates from public institutions but not from privately owned academies.

With such an official policy, students obviously chose to study at public institutes. In 1951, the Grantham College of Education, a training institute for teachers, was the earliest public academy to offer fine art courses. Six years later, New Asia College (later the Chinese University of Hong Kong after merging with Chung Chi College and United College in 1963) started a two-year fine arts specialized training program, which became a four-year program in 1959. Hong Kong University and the Chinese University of Hong Kong were the only two universities to offer part-time study opportunities; art and design programs at certificate and diploma levels as extramural studies began in 1956 and 1965 respectively. Graduates of these

Fig.2 Design 74, poster design, Hong Kong Polytechnic. Designer unknown. 1974.

courses and programs had no difficulties in breaking away from Chinese traditions and searching for a new language that reflected their own life experiences in Hong Kong where the East and the West meet.

As for specialized design training institutions, Hong Kong Technical College (now the Hong Kong Polytechnic University) was established in 1955 and started offering a three-year full-time higher diploma program in industrial design in 1968 under its Department of Industrial and Commercial Design (renamed the Swire School of Design in 1981). It is safe to say that students in the 1960s had a strong preference for Western style design. The posters designed by students for their graduation show between 1971 and 1974 *[fig. 2]*, for example, reflect the world design styles of the time. Indeed, students found it more crucial to master Western style design as a hireable skill, though graduation catalogues from this period contained Chinese design style.

One of the most influential design educators in the 1970s was the chief lecturer at Hong Kong Polytechnic, Wucius Wong (王無邪b. 1936). His two books were first published in English and later became available in Chinese and for PRC readers after a visit of Hong Kong design educators and designers to the Guangzhou Academy of Fine Arts in late 1978. This visit not only updated local instructors and students on latest designs outside China, but also re-introduced Bauhaus design approaches to the PRC design education through Wong's two books: *Principles of two-dimensional design* and *Principles of three-dimensional design* (Wong, 2001).

With the expansion of design education in the 1990s, we can observe a surge in the proclivity for establishing associations and connections with international design education bodies and professional design communities. Victor Chung-wing Lo (羅仲榮b. 1950) —a businessman, an alumnus of the Institute of Design at the Illinois Institute of Technology, and a key member of the Hong Kong Polytechnic University since 2004—has played a crucial role in promoting design industry and education of Hong Kong abroad. With a design education history of about 60 years, Hong Kong does not necessarily cling to what it has learnt. Under its new status as a Special Administrative Region of the PRC since 1997, the design education of Hong Kong must continue to conduct the strategy of forgetting the past, the British colonial history, and working hard for the future on constructing its Chinese colonial identity of being a frontier of the global design education network to mainland China.

Construction and education of national design identity: Taiwan

Historically known as Formosa to the West, Taiwan has a colourful colonial history with various nations and groups of people: colonizers from Spain (1626-1642) and the Netherlands (1642-1662) were followed by initial migrations of Minnan and Hakka ethnic groups from

China, the Qing Court (1683-1895), Japanese occupation (1895-1945), and the retreat of the Kuomintang (KMT, Nationalist Party of China) to Taiwan after 1945. This eclectic mix, along with the aboriginal tribes who have inhabited these islands for millennia, formed a complicated racial and cultural setting for Taiwan. To understand the love-hate relationship between foreign influence over and vernacular cultures of Taiwan from a design education perspective, we have to grasp Taiwan as a "nation" of the islands with conflict and negotiation within its local identity.

The majority of Taiwanese design historians would agree that the Japanese colonial government played an important role in introducing modern design and education to the islands. Japanese officials developed the modern design education system in Taiwan by relying on its own experiences in adapting design education from the West, such as the Bauhaus Art School. This introduction of modern design education, for example, resulted in the establishment of the School of Industrial Instruction (工業講習所, now known as National Taipei University of Technology 國立臺北科技大學, Taipei Tech) in 1912 as one of the earliest programs of industrial design. Apart from setting up vocational training and educational institutes in Taiwan, the Japanese government provided opportunities to study in Japan for native Taiwanese, including Yen Shui-long (顏水龍 1903-1997), an essential figure in the history of the Taiwanese art and craft movement. He studied at the Western Painting Division of the Tokyo School of Fine Arts in 1922, and returned to Taiwan in 1929. He was influenced by Yanagi Soetsu (1889-1961), a Japanese philosopher and founder of *mingei* (folk craft) movement in the late 1920s and 1930s. Yen also drew inspiration from and engaged with the vernacular elements of Taiwanese art, craft, and design, including those of indigenous tribes.

After 1945 when the KMT became the new ruler of the islands, Yen and other art and design educators who received training during the colonial period, continued to advocate for vernacular Taiwanese style in design and the possibilities that existed for economic growth through industrial development. Yen taught at a few post-secondary level art and craft institutes throughout his life and spread his influence by promoting Taiwan art and craft identity and style. With the increasing pressures caused by Taiwan's role in the Cold War, the KMT government sought and received American aid starting in 1951. It ranged from financial assistance to design education with the goal of boosting Taiwan's economic growth. Key American designers of the period, including industrial designer Russell Wright (1904-1976) visited Taiwan in 1955. During his second visit in 1958, Wright suggested that the government should establish design education degree programs at the university level. Another advisor, Alfred B. Girardy (1916-2004), an industrial design consultant, recommended courses based on the Bauhaus fundamental design principles to the National College of Arts (國立臺灣藝術專科學校), today's National Taiwan University of Arts (國立臺灣藝術大學) in 1961 (Lai, 2013).

Apart from American advisers, designers and educators from former colonizer Japan stepped in to advance the development of Taiwanese design education. Shinji Koike (1901-1981), and Michitaka Yoshioka (1924-1995), Kaoru Otamaru (b. 1921), and Mutsuo Okabayashi (b. 1931) were, for example, instructors for summer design workshops directed at local designers and educators between 1963 and 1965. German industrial designer Jörg Glasenapp (1933-1990) similarly conducted summer workshops in 1967 and 1968. These types of work-

Fig.3 Homepage of Museum of Hakka Innovation Industry for New Taipei City [http://www.hakka-industries.ntpc.gov.tw/] 2008.

shops received praise from locals for contributing to the foundation for modern design education in Taiwan (Lai, 2013). With the end of the *mei yuan* (美援), which literally means aid from the United States, in 1965, the economy of Taiwan finally took off. Its manufacturing industry flourished in the late 1960s, but the promotion of design education quieted down. It was not until the late 1980s that manufacturers finally realized the importance of design and design education for their success in the global marketplace (Wong, 2005).

In the 1990s, design education experienced a rapid expansion: more institutes started offering design related degree programs. Graduate level degrees at the Masters level were introduced and culminated in the launch of a doctoral degree program in 2000 at the Industrial Design Department, National Cheng Kung University. Popular research topics at the graduate level include Hakka and aboriginal elements for design and the development of the cultural industry of Taiwan. With a growing public interest in the revival of forgotten Taiwanese vernacular identities, including indigenous cultures and the Minnan and Hakka ethnic heritages, government and private organizations started providing strong support for a revival movement. Designers are also eager to explore vernacular identity and to incorporate such vernacular Taiwanese symbols from local history and quotidian experiences into their design objects *[fig. 3]*. This design trend is highly visible in the current context of Taiwan. While its future is unclear, design education in Taiwan is certainly heading towards an integration of its post-war experience into the passion of local designers for constructing a national design identity for Taiwan for the global marketplace.

Conclusion

This paper identified the Sinophone region's different paths and experiences in the development of design education in the constructions of national identity, and the love-hate relationship with global influence. In this brief review of the three cases, we can recognize an abundance of conflicts and contradictions in the case of China due to the direction of its politically and ideologically driven design education and its ethnic security need for nationalism. Although the government is cautious about "negative" influences from the outside, the deep affection between expatriate design educators and local design institutions, as well as their connections with schools in the West, is prevalent.

Now part of the PRC, Hong Kong people are striking for survival at the local level against the failing "one country two systems" agreement promised by the Beijing government. With declining liberty and growing dissatisfaction with the pro-Beijing SAR Hong Kong government, people and establishments in Hong Kong have no choice but to continue to adopt the

policy of forgetting the past and working hard for the future with no hope.

Among the three places reviewed in this paper, the design education in Taiwan may be the most promising as the only place with democracy where individual freedom of speech and thoughts can be guaranteed as design education evolves. Taiwan has then unsurprisingly engaged in the construction of its own Taiwanese national identity in order not only to disassociate itself from PRC but also to communicate globally.

These three case studies reflect the development of modernity itself with the concept of national identity. Although China, Hong Kong, and Taiwan have a shared heritage, they have experienced different growth rates with their physical, geographic separation after 1945 and undergone different paths in the formation of their national identities (Gaimeno-Martinez, 2016). In the conflux of shared and varying factors in their development of design education systems, these three locales can shed light on the necessity of further nuanced distinctions among individual entities in the Sinophone region in order to facilitate transnational and Sinophone modernity studies. Certainly, future research on Macao's design education will contribute to our understanding of design education in the region.

References

Barlow, T. (2012). Debates over colonial modernity in East Asia and another alternative. *Cultural Studies*, 26(5), 617-644.

China Academy of Art. (2016). *China Academy of Art, Museums*. Retrieved from http://en.caa.edu.cn/index.php?page_id=7279

Design for Enlightenment——Opening ceremony of Bauhaus Institute's collection at the China International Design Museum. (2014, September 28). Retrieved from http: //www.chnmuseum.cn/tabid/138/InfoID/102104/frtid/64/Default.aspx"作為启蒙的設計——中國國際設計博物館包豪斯藏品展"在我館開幕。(2014, September 28). Retrieved from http://www.chnmuseum.cn/tabid/138/InfoID/102104/frtid/64/Default.aspx

Feng, Z. K. Handicraft Objects and Aesthetic Sensibility. In Feng Chenbao, Feng Yiyin and Feng Yuancao (Eds.), *Feng Zikai Collected Work: Art Volume 1*, pp. 52-62. Hangzhou: Zhejiang Wenyi Chuban She, 1990. Original published in *Yiban Zazhi* magazine, Vol. 1, December issue, 1926. [In Chinese] 豐子愷:〈工藝實用品與美感〉,原載於《一般雜誌》第一卷十二月號,52-62頁,1926年。

Gaimeno-Martinez, J. (2016). *Design and national identity*. London: Bloomsbury Academic.

Kwok, J. Y.C . & So, K. (Ed.) (2007). *The birth of modern design in China*. Hong Kong: Joint Publishing. [In Chinese] 郭恩慈, 郭 編著,《中國現代設計的誕生》,香港:三聯書店(香港)有限公司,2007年。

Lai, C. J. (2013). The development and influence of US Aid on Taiwan's early design education. *Journal of Education Research*, 235 (Nov.), 19-31. [In Chinese] 賴建都著:〈美援對台灣早期設計教育之歷程與影響〉,《教育研究月刊》,第235期,19-31頁,2013年。

Lai, V. M. (2010). *Research on the development strategy of Chinese art design education*. Beijing: Tsinghua University Press. [In Chinese] 黎明海編著:《與香港藝術對話:1980-2014》,香港:三聯書店(香港)有限公司,2010年。

Lei, G. Y. (1937). My view on China's industrial and commercial arts in the future. In China Industrial and Commercial Arts Association (Eds.), *Selected Works of the Modern China's Industrial and Commercial Arts: Volume 2* (no page). Shanghai: China Industrial and Commercial Arts Association Publishing. [In Chinese]

雷圭元著:〈對於今後中國工商業美術之我見〉,載於《現代中國工商業美術選集:第二集》,中國工商業美術作家協會編著。上海 :中國工商業美術作家協會出版,1937年。

Modernization. (n.d.). In *OxfordDictionaries.com*. Retrieved June 22, 2017, from https://en.oxforddictionaries.com/definition/modernization

Pan, L. (2007). *Shanghai style: Art and design between the wars*. Hong Kong: Hong Kong Joint Publishing (HK) Co.

Tsinghua University, Academy of Art and Design. (2010). *Research on the development strategy of Chinese art design education*. Beijing: Tsinghua University Press. [In Chinese] 清華大學美術學院獎中國藝術設計教育發展策略研究課題組編著:《中國藝術設計教育發展策略研究》,北京:清華大學出版社,2010年。

Valentine, S. (2006). The modernisation of China and the Chinese critique of modernity. *Orientats* 4: 7-22. Retrieved from http://www.raco.cat/index.php/HMIC/article/viewFile/53271/61301.

Wong, J. J. (2005). *Alchemy in the wasteland: The historical analysis of Taiwan industrial design since 1980s.* Unpublished doctoral dissertation. Taipei: National Taiwan University. [In Chinese] 翁註重:《荒地中的煉金術八〇年代以降台灣工業設計之歷史分析》,博士論文,台灣:國立臺灣大學建築城與鄉研究所,2005年。

Wong, W. S. (2001). Detachment & reunification: A Chinese graphic design history in Greater China since 1979. *Design Issues*, 17(4): 51-71.

Xu, P. (2009). The changing landscape of design education of China. In Guan Shanyue Art Museum (Ed.), *Graphic design in China under a background of globalization*, pp. 30-38. Nanning: Guanxi Fine Arts Publishing House. [In Chinese] 許平著:〈變革中的中國設計教育版圖〉,載於《全球化背景下的中國平面設計》,關山月美術館編著, 19-31頁。南寧:廣西美術出版社,2009年。

Yuan, X. (2003). *The Studies of the Development of Arts Design Education in China*. Beijing: Beijing Polytechnic University Press. [In Chinese] 袁熙暘著,《中國藝術設計教育發展歷程研究》,北京:北京理工大學出版社,2003年。

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Industrial Arts Education and Pattern Education in China's Modern Design Education: China's Modern Design Education in the First Half of the 20th Century from Research on Chen Zhifo

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Abstract

Chen Zhifo (1896-1962) was one of pioneers and founders of China's modern design education. From the 1910s to the end of the 1940s, as a learner and educator on modern design, his experience and activities reflected the conditions and features of China's design education during that period, and the correlation between the design education and the social environment of China then.This paper divides Chen Zhifo's activities into two parts: One is his experience in design learning as a student, and the other is his teaching activities as a teacher. His design learning experience as a student and design teaching experience as a teacher reflected the conditions of the first stage (industrial art education stage) and the second stage (pattern education stage) in the course of the development of China's modern design education. The industrial arts education in the late Qing Dynasty and the beginning of the Republic of China formed an important part in China's emerging industrial education. And the industrial education represented the historic trend of China to be stronger through reformation. The industrial arts education was regarded as the beginning of China's modern design education. And pattern education became the representative topic of design education and the prevailing of such education in the Republic of China (1912-1949)was closely related to the intense competition of the national industrial and commercial commodities against foreign commodities. It can be drawn that the generation and development of China's modern design education bears close correlation with the overall social and historical development as well as the actual demands of the social, economic and production development. The industrial arts education and pattern education was the foundations and historic fortunes for the modern design education in China nowadays. Researches on the pioneers of modern design represented by Chen Zhifo are of great necessity to summarize the historical experience of the development of China's modern design education and provide historic references for present design education. This paper mainly applies document research approaches.

Keywords: Chen Zhifo, Industrial Arts Education, Pattern Education, Modern Design Education, China

Introduction

Chen Zhifo (1896-1962), as one of pioneers and founders of China's modern design education, has made many breakthroughs in the field: He was among the first batch of graduates majoring in graphic design and of the graphic teachers (1916) in Chinese modern times, and the first student who studied design abroad (Tokyo Fine Art School, and Tokyo University of the Arts at present, 1918-1923). He published the first graphic textbook *Lectures on Graphics* (1917) in China and the first book on graphic theory *ABC for Design Pattern Methods* (1930). He had been working on design education for over 40 years and was of great influence on the development of China's modern design education. From the 1910s to the end of the 1940s, as a learner and educator on modern design, his experience and activities reflected the conditions and features of China's design education during that period. This paper attempts to understand and comprehend China's modern design education in the first half of the 20th century from Chen Zhifo's learning and teaching practices.

Chen Zhifo was a person with comprehensive development and wide interests. More than a design educator, he was also a designer and an ink painter with great attainments. In the design education and artistic creation in the Republic of China, Chen Zhifo was a quite important figure. Presently, more researches on Chen Zhifo are focused on his creation on bird-and-flower painting[1], and few of the researches on his design education focus on the correlation between his design education and the design education in China in that period, or the correlation between the design education and the social environment of China then. This paper divides Chen Zhifo's activities into two parts: One is his experience in design learning as a student, and the other is his teaching activities as a teacher. This paper puts his activities into specific historical background in hope of understanding the development of modern design education in China in the first half of the 20th century.

Chen Zhifo as A Student and Industrial Arts Education in the Late Qing Dynasty and the Beginning of the Republic of China

Chen Zhifo is one of the first batch of the Chinese students learning design at home and abroad. His learning experience on design can reflect the conditions of the design education in China in the Late Qing Dynasty and the beginning of the Republic of China.

Chen Zhifo was born in 1896, the late Qing Dynasty in the feudal society of China. He had shown his great interests in painting in his childhood. When he was admitted in Zhejiang Industrial College in 1912 at the age 16, China had stepped into the era of the Republic of China as a modern national country. After entering Zhejiang Industrial College, he selected the Weaving Department. "He began to learning courses such as painting and pattern, such courses were taught by Japanese teachers, of which Mr. Guan Zhengxiong kept in close touch with him

1) ——— According to retrieving on CNKI (http://www.cnki.net/), there're 352 researches related to Chen Zhifo from 2006 to 2017, of which 276 are researches on his painting creation, a proportion of about 76%.

and often offered him guidance after class[2]." In 1916, Chen Zhifo graduated from the College and was recruited by the College with excellent achievements. He was in charge of teaching on courses such as dyeing and weaving pattern, weaving method and pencil drawing. He "learned photographing and weaving technologies from Japanese teacher Guan Zhenghong and compiled *Lecture Notes on Patterns* based on the teaching practices, which was the first teaching material on pattern in China[3]." In 1918, Chen Zhifo took part in the government-supported student examination for overseas students in Japan. Later on, he went eastwards to Japan and was admitted by the Industrial Pattern Department of Tokyo Fine Art School (now Tokyo University of the Arts). Professor Daotianjiayi was the Director of the Industrial Pattern Department. Chen Zhifo was the first overseas student in the Department as well as the first one who studied in Japan specifically for industrial pattern. In 1923, Chen Zhifo was graduated from Tokyo Fine Art School and returned to Shanghai as Professor and Director of Pattern Department of Shanghai Oriental Fine Arts Vocational School.

Chen Zhifo's curriculum vitae is somewhat the reflection of the conditions of design education in the late Qing Dynasty and the beginning of the Republic of China. First, at that time, there were no specific design colleges in China and design education was mainly offered in the industrial schools and art schools. Chen Zhifo was just a graduate of such emerging industrial education. Various types of industrial schools aiming to serve the industries and vocational trainings occurred in the late 19th century, which represented the historical trend of reformation and improvement in China. After the Opium War in 1840, the ancient agriculture-based China was forced to open the gateway of the country and gradually descended to a semi-feudal and semi-colony nation. The process of modernization was started in quite a passive manner. Facing the imperialism with fierce guns and boats and the meager and weak late Qing Dynasty, far-sighted personages of China proposed the initiative of "saving the nation by engaging in industry", to be specific, making "self-redemption" by toughening up the own strength through military industries and civil industries. In the late 19th Century and early 20th Century, some practical industrial arts schools and fine arts schools emerged. Such schools offered courses such as machinery, metalworking, carpentry, glass, textile and drawing and covered areas such as military, construction, electric appliance, railway, machine manufacturing and shipbuilding. Such education is called industrial arts education. The expression "industrial arts" has two layers of meanings, of which one is the general reference of various types of handicraft arts and the other refers to the procedures, approaches and technologies to process raw materials into finished products. However, "industrial arts" does not necessarily mean "design", only the part making the product appearance more attractive by certain artistic methods in the industrial arts activities belongs to design activities. According to the actual conditions of industrial arts education, the contents and scopes of industrial arts education are greater than those of design education. Many contents belong to engineering technology and craftsmanship. However, some of contents, such as dyeing and weaving, ceramics, metalworking and lacquering, are bearing close correlation with design. In addition, some emerging professional educations

2.3) ————Chen Xiufan, Li Youguang, *Chronology of Chen Zhifo*, [J].Journal of Nanjing University of the Arts (Fine Arts and Design Edition),2006,(2).

such as machinery and shipbuilding also contain contents related to industrial design. Especially, the "Artwork Drawing Department" in industrial arts education represented the feature of separation of design and manufacturing in modernized production. In 1913, the Ministry of Education of the Republic of China issued the *Order on Industrial Schools* to further booth the integration between industrial education and ordinary education. By 1922, there're already 1,209 vocational schools all across the country[4]. The industrial art design in the late Qing Dynasty and beginning of the Republic of China was regarded as the beginning and stages in germination of China's modern design education.

Second, Chen Zhifo's learning experience reflected the influence of Japan on China's design education at that time, which represented in two aspects — Chinese students studying in design in Japan and Japanese teachers in lecturing design courses in China. On one hand, the overseas Chinese students in Japan formed the major part of early stage design education in China. According to related information, in the early 20th century, Chinese students abroad studying fine arts had more than three hundred people, roughly half went to Japan, the other half went to Europe and the United States. During the period of Beiyang government, the number of Chinese students studying in Japan is twenty thousand or so, on the top of the students abroad all over the world. Since the 1920s the number of students studying in Europe and the United States became more than the number of students in Japan[5]. There're also many other people studying design or fine arts in Japan and working on design and fine arts education after returning to China like Chen Zhifo. For example, the Beijing Fine Arts School (now the Central Academy of Fine Arts) established in 1918 was the first national fine arts school establishing design major in China. Among the Chinese tutors available to apply for in the 1920s and 1930s, one (Jiao Zengming) was graduated from Kyoto Higher Polytechnic School, and four (Xu Jin, Han Dong, Huang Rui and Ding Ruwei) were graduated from the Design Department of Tokyo National Technology College[6]. Among such overseas students, there're pioneers and founders for China's modern design education. They were of significant influence on China's modern design education. Chen Zhifo was just a typical figure of such persons. On the other hand, among the design teachers in China, there're also many Japanese teachers. As recorded in *Chen Zhifo's Chronology*, when Chen Zhifo was studying in Zhejiang Industrial College, the Japanese teacher Guan Zhengxiong was teaching in the College. Chen Zhifo established close relationship with him. The Japanese tutor Kashima Eiji had been working as Guest Professor of Beijing Fine Arts School from the 1920s[7]. In 1929-1930 at the invitation of the Republic of China, a visiting professor Zhaitengjiasan was recommended by the Tokyo Art School which was commissioned by the culture department of Japan's Foreign Ministry as the director of design department in National Art College of Hangzhou[8]. Such information reflected the influ-

4)————Zhao Shuai, Bao Mengruo, *Evolution and Transcendence — Preliminary Study on Thoughts of Industrial Arts Education in Early Republic of China*, [J].Heilongjiang Social Sciences, 2016 (4).

5)————Li Huaqiang, *Modern Arts Students and the Spread of the Chinese Modern Design*, [J].Journalistic University, 2013,(06):34-41.

6.7)————Zhou Bo, *The Beginning of Beijing Fine Arts School and China's Design Education, Research on Knowledge Focused on Lecture Notes of Design Approaches of Beijing Fine Arts School*, [J]. Art Research, 2014(1).

8)————Zheng Juxin, *Narrativing about Zhaitengjiasan Teaching in National Art College of Hangzhou*. [J]. The New Art,2016,(11):43-52.

ence of overseas students in Japan and Japanese teachers in China on the formation and development of early stage design education in China.

Chen Zhifo as A Teacher and Pattern Education in the Republic of China

In 1923, Chen Zhifo graduated from Tokyo Fine Arts School and returned to China, he had taught in various types of arts colleges on pattern courses. His pattern teaching activities reflected the development conditions of the design education in China in the Republic of China to some extent.

From Chen Zhifo's return to China from Japan to the end of the 1940s, he had been teaching in several arts schools, including Shanghai Oriental Special Arts College, Shanghai Fine Arts Vocational College, Guangzhou Fine Arts Vocational College, National School of Fine Arts, National Central University, etc. He taught several courses such as pattern, color, perspective science, art history and human anatomy. Among such courses, pattern education is the center of his teaching. As early as in 1916 when he was retained by Zhejiang Industrial College as tutor, he worked on teaching of dyeing and weaving patterns. After his return to China from Japan, he once worked as Director of Pattern Department in Shanghai Oriental Special Arts College and Guangzhou Fine Arts Vocational School. During his teaching, he had compiled several teaching materials on Pattern, of which *ABC for Design Pattern Methods* is the representative one (World Book, 1930). The book offered clear and vivid introduction on concepts on patterns.The main content of the book was introduced in the notes on the use of the book: "The book contains the general knowledge and approaches on design patterns." "The book focuses on the plane design as well as the colors applied on the design, and it only outlines the general knowledge about three-dimensional design." Chen Zhifo pointed out that the basic characteristics of design patterns was "the beautiful and practical"in the book, he thought that it may constitute a design pattern unless it has the condition with "the beauty and practical". The book elaborates on the three elements of pattern composition: shape, color and decoration; the three aesthetic principles of pattern constituting: rhythm, balance and harmony; the function of the pattern: used safely, easily, adaptively, pleasantly, stimulating the desire to use[9]. Illustrations are provided to explain each approach contained in the book. There're totally 79 illustrations in the book. And the book contains 136 pages.

After returning to China, Chen Zhifo had been working on pattern education for a long period. One reason was that he had specifically studied pattern in Japan. And another important reason was that the pattern education was in line with the actual demands of China's society in that period. In the period of the Republic of China, design education was included in the pattern education and handicraft education in various types of schools, of which pattern education was the most prevailing. At that period, pattern education mainly focused on decorative patterns. The popularity of pattern education was mainly due to the demands of market and product manufacturing. In the Republic of China era, the industry and commerce circle of China's national capitalism in the process of growing faced great hardships. At that time,

9) ————Chen Zhifo ,*ABC for Design Pattern Methods,* The World Publishing Company 1930, p16, p3.

the markets were occupied by quite a number of products from western countries and Japan. The civilians in China just called them "Western Goods" and "Japanese Goods". And the local products in China were called "National Goods". Compared with local goods of similar types, such foreign goods were often more refined in manufacturing processes and their prices were cheaper. The product quality was inaccessible for the national industry and commerce in China which was just at the beginning to some extent. China's national industry and commerce had no advantage on production-related factors such as new material, new technology and new production methods. With this regard, novel and decorative features of the product forms became important factors for national industry and commerce to take part in market competitions. At that time, "some of the pillar business of national industry, such as cotton textiles, consumer goods manufacturing, etc., in the competition with foreign enterprises increased the demand for graphic design",[10] for example, pattern design of textile, product trademark design and product advertising design, etc. The actual demands of economic manufacturing was an important reason for the development of pattern education.

The pattern education in the Republic of China was the second development stage of China's modern education after industrial arts education in late Qing Dynasty. The Chinese expression"图案" was derived from Japanese expression "デザイン" which was translated from the English word "design". Chen Zhifo had made explanation on this in the 1930s: "'图案' in English means "design" or 'artistic conception' (The artistic conception is the process of ideological creation, and design is the outcome of artistic conception). And the expression '图案' was the liberal translation by the Japanese and now it is commonly adopted in China"[11]. The patterns education in China emerged in late Qing dynasty, in the period of the Republic of China got larger development. Zhang Zhidong set up Sanjiang School in Nanjing in 1902, the pattern course as one of the main courses in the school. In 1918 the Beijing Fine Arts School set up the pattern department, divided into two units: the industrial arts pattern, the building decoration pattern, National Art College of Hangzhou set up the pattern department in 1928. The pattern course was taught in all the art academy in 1928-1937[12].

In the pattern education in the Republic of China the pattern course was divided into basic pattern and the industrial arts pattern. Basic design refers to the universal pattern design, the foundation training of pattern design, having no specific practical function. The contents in Chen Zhifo's *ABC for Design Pattern Methods* belonged to basic pattern. The industrial arts pattern was the pattern design according to the need of production and the specific material, process and use. As a result of the need of the patterns education all kinds of pattern books published in the Republic of China. In addition to *ABC for Design Pattern Methods*, Chen Zhifo's other pattern books: *Symbol Pattern* (1934), *Pattern Textbook* (1935),*Pattern composition method* (1937) were also published in the Republic of China. Other than Chen Zhifo's works,

10) ———— Li Huaqiang, *Modern Arts Students and the Spread of the Chinese Modern Design*, [J].Journalistic University, 2013,(06):34-41.
11) ———— Sun Hongwei, *From Pattern to Design — Evolution of the Modern Design Modes in China*,[J]. Design Forum, 2013(3).
12) ———— Shen Yu, *History of Chinese Modern Design Concept,* Shanghai People's Fine Arts Publishing House 2017, p22.

there're also a great number of books on design published in the Republic of China era, for example, Yu Jianhua's *Latest Design Methods* (1921), Zhao Minquan's *Design* (1939), Lei Guiyuan's *New Design Studies* (1947) and Fu Baoshi's *Basic Design Studies* (1947). In addition, there're also lecture notes on design printed and distributed by the school themselves. This shows one spot about the pattern writing during the period of the Republic of China.

It should be noted that many teaching materials on pattern in the Republic of China were influenced by western countries and Japan. As pointed out in Zhou Bo's *The Beginning of Beijing Fine Arts School and China's Design Education, Research on Knowledge Focused on Lecture Notes of Design Approaches of Beijing Fine Arts School*, by comparison of the four *Lecture Notes on Design Methods* by Beijing Fine Arts School from 1918 to 1922 and Xiaoshixincang's *General Design Methods* (1909), except the fourth volume specifically on "design patterns" and "printing", the remaining three were all influenced by Xiaoshixincang's *General Design Methods* to some extent. Certainly there're also some books on design relatively greatly influenced by western thoughts, for example, Zhao Minquan's *Design*. Among the four references listed in the book, three were English books, and the remaining one is Xiaoshixincang's *General Design Methods*[13].

In the development of Chinese modern design education, forming the two connotation of the word "pattern": the generalized connotation is the "design", in a narrow sense, it is planar pattern in line with aesthetic runes. The main contents of pattern education in the Republic of China were planar pattern. And nowadays in China, the term of "pattern" used by the people is mainly in a narrow sense. The design education in the Republic of China was an important development stage of China's modern design education. Pattern educators, as represented by Chen Zhifo, were the receivers and spreaders of modern design. And their teaching practices and works on patterns formed an important part in the research on China's modern design education.

Conclusion

As one of the pioneers and founders for China's modern design education, Chen Zhifo had been working on design education for over 40 years for his lifetime and was of significant influence on China's modern design education. His design learning experience as a student and design teaching experience as a teacher reflected the conditions of the first stage (industrial art education stage) and the second stage (pattern education stage) in the course of the development of China's modern design education.

The industrial arts education in the late Qing Dynasty and the beginning of the Republic of China formed an important part in China's emerging industrial education. And the industrial education represented the historic trend of China to be stronger through reformation. The contents and scopes of industrial arts education were both greater than those of design of education nowadays. The industrial arts education was regarded as the beginning of China's mod-

13) ————Zhou Bo, *The Beginning of Beijing Fine Arts School and China's Design Education, Research on Knowledge Focused on Lecture Notes of Design Approaches of Beijing Fine Arts School*, [J]. Art Research, 2014(1).

ern design education. In China's design education in the Republic of China, pattern education had been widely focused and become the representative topic of this period. The prevailing of pattern education in the Republic of China was closely related to the intense competition of the national industrial and commercial commodities and foreign commodities. The main contents of pattern education in the Republic of China are domestic planar patterns, which was a narrow sense in terms of generalized and narrow senses. The contents and scopes were narrower than nowadays design education and should be a part of present planar design education. From the industrial arts education and pattern education, it can be drawn that the generation and development of China's modern design education bears close correlation with the overall social and historical development as well as the actual demands of the social, economic and production development.

After the founding of the People's Republic of China in 1949; China's modern design education also experienced the arts and crafts education stage (after the 1950s) and the modern design education stage (from the 1980s up to present). The industrial art education and pattern education in the first half of the 20th century was the foundations and historic fortunes for China's modern design education in China nowadays. Researches on the pioneers of modern design represented by Chen Zhifo are of great necessity to summarize the historical experience of the development of China's modern design education and provide historic references for present design education.

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Inheritance and Innovation: A Study of the Animation Character Design Education Based on the Chinese Mythology

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Abstract

As the essential component of Chinese culture, Chinese mythology is the manifestation of ethnic heritage and epitome of 5000 years of history, which offers great resources and inspirations for animation creation and production. The design education is the base for the design of original animation. The educational model from traditional resources can not only exploit the innovative thinking but also dig deeply the core connotation of traditional culture aiming at aesthetic experience of the public, which can target the teaching practice integrating with art creation and market demand. Firstly, the study creates an animation mythological character design model according to the literature review to provide the operational theory for animation design education, which consists of three main parts: central idea, research method and conceptual model. Secondly, the research sums up the animation character creative process framework through the case of Shisa with the specific ideas of creative design. Four steps are used to design a mythological Character: set a scenario (Illustration), tell a story (Interpretation), write a script (Reaction), and design a character (Reflection). It has analyzed how to integrate the information about the mythology and stimulate the designers' creative imagination in the animation character design in order to create the artworks with unique oriental charm.

Keywords: animation character design, Chinese mythology, design education

Introduction

As the essential component of Chinese culture, Chinese mythology is the manifestation of ethnic heritage and epitome of 5000 years of history, which offers great resources and inspirations for animation creation and production. Meanwhile, Chinese mythology with its profound cultural assert and the unconstrained imagination is an indispensable factor in animation creation. Chinese animation had a brilliant moment for Chinese myths and legends, which have deep impact on the development of the domestic animation industry, and being widely used in the creation of animation. Therefore, we can believe that nationalization is the correct development path of the domestic animation industry. *Princess Iron Fan* of Wan brothers, a new chapter in Chinese animation, the animation character combined with cultural traits and social style at the time, wrote an innovative design concept and provided guidance for contemporary Chinese animation creation. Since 1960s, *The Monkey King, Nezha Nao Hai, The Legend of Sealed Book* and *The Nine-Colored Deer* with artistic means of clay sculpture, paper cutting, ink, etc., adapted from Chinese mythology, had a spectacular success and presented profound cultural connotation with exquisite action designs and elegant colors, which makes unique Chinese charm. The rich resources of myth in ancient China provided a broad space for the creation of animation film and inherited a long ethnic culture. From 1990 to 2000, the once-grand Shanghai Animation Film Studio nearly didn't have magnum opus. During this period, *Lotus Lantern*, Chinese mythological theme inherited the national style, with the basic story about Chen xiang who save his mother from God Erh-lang. But in reality, this film applied elements of Hollywood and Japanese animation which had unavoidable flaws in character design. In theory, with the using of mythology, Chinese animation makes us realize consciously that predecessors have made various attempts in building the myth animation character, but how can we make the ancient Chinese myth image deeply integrate into creation, to create a successful animated image of the myth, has become an important subject we need to explore.

In recent years, Europe, America and Japan are constantly trying to make their animation films to show profound cultural connotations and cultural spirit, and there are some remarkable products. For example, *Song of the Sea* (2014) was adapted from Irish mythology; *Nausicaa of the Valley of the Wind* (1984), *Princess Mononoke* (1999), *Laputa Castle in the Sky* (1986), *Spirited Away* (2002), directed by Hayao Miyazaki, were adapted from Japanese mythology; *The Tale of Princess Kaguya* (2013) was adapted from the mythological story of *Taketori Monogatari*, which revealed the cultural identity of different regions and nations. It has been becoming a trend that Hollywood use Chinese elements to make films, such as *Hua Mulan* (1998) and *Kung Fu Panda* (2008), but ultimately reflect the American cultural values. Since 2015, the popular Chinese animation films such as *Monkey King: Hero Is Back* (2015), *Monster Hunt* (2015) and *Big Fish & Begonia* (2016) are all inspired by Shan Hai Jing, the first fantastic book in China. The characters, e.g. the demon king named Huba and faceless villain named Hun Dun, all can find the construction rules from that book. Specifically, the elements of the films show the traditional Chinese culture and deliver the cultural quintessence and endless imagination from the adaptation of mythology, which also confirm that myths and legends have

brought infinite creative inspiration and artistic resources for Chinese animation. Marx (Elster, 1986) points out that all mythology masters and dominates and sharps the focus of nature in and through the imagination; hence it disappears as soon as man gains mastery over the focus of nature. Theoretically, the connotation is that myth comes from the nature, the will of human and the beautiful imagination of wisdom, and the mythology will be the creative source of animation creation.

In theory, Chinese mythology is the source of Chinese culture including the unique understanding of life by primitive ancestors, which is the most representative of the national spirit. It shows a relatively broad characteristic of the time comparing the pure religious mythology, as it contains a more active ideological component (Xie, 1997). Nietzsche (1994) acknowledges that the idea that myth in turn is the indispensable condition of a culture's "healthy, creative natural power". Human culture can't be separated from the return and reflection of the myth, which contains culture, art and science. The Chinese myth is decentralized, so it should be put into a system firstly during the progress of integrate into original animation, to show the complete feature of Chinese myths and related sequence of events. For if a comparison of the mythical form with other cultural forms is taken in a purely objective sense, i.e. based on purely objective parallels and connections, it may well lead to a leveling of the intrinsic form of myth (Cassirer, 1965). Langer (1957) provided art is the creation of forms symbolic of human feeling. The concept of mythological images vividly showed by the fictitious animation, which follows traditional and creative imagination, is the transition of emotion. Consequently, combining with mythology and animation will develop a distinctive aesthetic form; the elements of animation such as rhythm, lens, color, etc., can show the depth of myth diversely and produce a new audio-visual and aesthetic experience by contemporary ideation.

With the development of contemporary culture, it is observed that the creation of animation character with Chinese classical mythology, has provided the basic lesson for innovation in animation design education. At present, Chinese animation design education can't meet the market demand, and the conservative concept of education has formed a barrier for the cultivation of animation talents. Wu (2011) considered that to solve the problem of animation industry, it should start from education, and educators must change the current orientation of animation education, educational methods and educational content. The educational model from traditional resources can not only exploit the innovative thinking but also dig deeply the core connotation of traditional culture aiming at the aesthetic experience of the public, which can target the teaching practice integrating with art creation and market demand. Therefore, the animation design education in colleges needs to improve the traditional modeling ability from the spirit of Chinese culture and enhance designers' artistic accomplishment.

The purpose of this research includes: firstly, the study will create an animation mythological character design model to provide the operational theory for animation design education. Secondly, it will analyze how to integrate the information about the myth art and stimulate the artists' creative imagination in the animation character design in order to create the artistic works with unique oriental charm. Thirdly, the research will sum up the animation character creative process framework through the case of Shisa with the specific ideas of creative design. Designers and artists are the center in the past artistic creation, ignoring the aesthetic experi-

ence of the audience, and this article explores the mental model of viewers through the mythological character design, which will help designers to express more acceptable ideas. At last, the research will sum up the experience to innovate in teaching through the analysis of the work of the character design.

Animation Mythological Character Design Model

How to transfer Chinese mythology into character design has become a critical issue in animation design education in this study. An animation mythological character design model facilitating understanding of design creative process is proposed in Figure 1. Animation mythological character design model consists of three main parts: central idea, research method and conceptual model to systematically analyze the education problems of animation mythological character design, reproducing the most basic creative ideas of character design. The central idea focuses on how to abstract mythological figure from Chinese mythology and then transfer it to a design transformation model to design character creations. The research method consists of three steps: identification, translation and implementation, to abstract mythological figure from Chinese mythology (identification), transfer them to design information and design elements (translation), and eventually design a mythological Character (implementation).

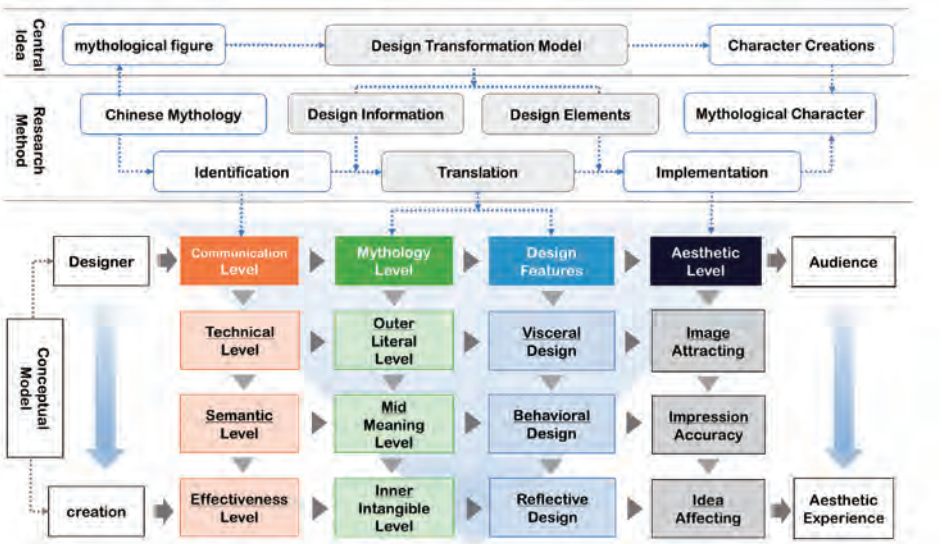

Fig.1 Animation Mythological Character Design Model

Conceptual model has shown the process by the designers' creation artwork, and expresses the thoughts of artwork to audiences, and audiences proceed the aesthetic experience. It consists of four main parts: design level, mythology level, design features and aesthetic level, which systematically analyze the creative ideas of the mythical character design and the final effect.

1. Communication Level:

For the communication study, three levels of problems are identified in the study of communication: technical, semantic, and effectiveness (Craig 1999; Fiske 2010; Jakobson 1987). The technical level requires getting the audience's attraction for the recognition through his/her senses, to achieve the image of artistic beauty. The semantic level requires the audience accurately realize the meaning of the message through his/her realization, to achievie the impression of artistic beauty. The effectiveness level concerns the ways in which the audience is made to take the right reflection through his/her affecting, to achievie the idea of artistic beauty.

2. Mythology Level:

The translation of mythological text requires three aspects, literal level, meaning level and intangible level. Literal Level requires designers to find out creative material about Chinese mythological theory research including the recordation of texts and plastic arts, and summarizes the focus of mythological stories following the historical culture and extracts the core role of myth. Meaning level requires designers to dig essence of connotation and the cream of national culture, and analyzes the mythological quality of roles and modeling features from cultural background, ornamental features, facial features and character features. Intangible level requires to get the understanding of the text and provide an imagination for the following design to achieve the originality and innovation.

3. Design Features:

For emotional design, Norman (2005) proposed three levels of design processing—visceral, behavioral, and reflective design, which represents three kinds of audience's experience that is image, impression, and idea as shown in figure 2. The visceral design is the most basic feature. Hogarth (1753) explores the six principles as guiding our eyes toward true beauty: fitness, variety, regularity, simplicity, intricacy, and quantity. Six factors can be used as measures of the beauty reflecting the artistic charm in composition, color, rhythm, etc. The behavioral requires designers to attempt in various ways, such as ink painting, single-outline, flat-color image, com-

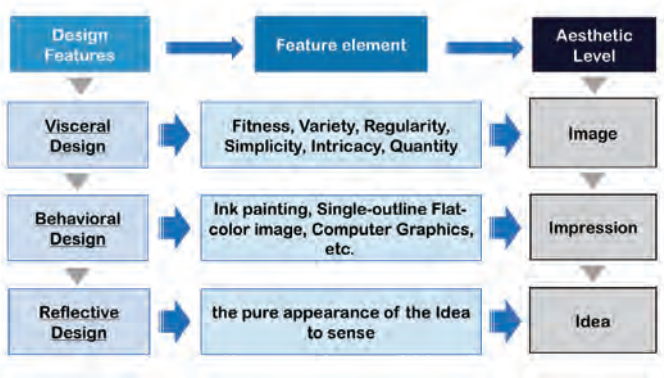

Fig.2 Animation Character Design Features

puter graphics, etc., to enrich the visual beauty of animation and make impressive works. For reflective design, Hegel (1981) points out the beauty is characterized as the pure appearance of the idea to sense. Overall, the essence of design is to reach the resonance of the beauty, and designers transform traditional cultures to character design forming special art symbols.

4. Aesthetic Level:

Three levels are identified in the cognitive aesthetics: the image of artistic beauty, the impression of artistic beauty, the idea of artistic beauty. The image: classicalism holds that beauty is in the form of objects; the animation works that intend to achieve the audio-visual beauty for audience must satisfy the image of artistic beauty. Only one answer seems possible - significant form. In each, lines and colors combined in a particular way, certain forms and relations of forms, stir our aesthetic emotions (Bell, 1989). The impression: every simple idea has a simple impression, which resembles it, and every simple impression has a correspondent idea (Hume, 1996). Overall, it can be seen that the mind perception of human can be divided into two parts, i.e. the impression and the concept. The idea: an idea of the way of feelings, emotions, and all other subjective experiences come and go (Langer, 1977). Plotinus (1962) affirmed that it is now time, leaving every object of sense far behind, to contemplate, by a certain ascent, a beauty of a much higher order; a beauty not visible to the corporeal eye, but alone manifest to the brighter eye of the soul, independent of all corporeal aid. Essentially, the beauty of art is the process through the nature to the body and then to the soul of human.

Animation Mythological Character Design — Shisa

The mythological figure: Shisa is a research object in this article to explore the theoretical construction, creativity implement, aesthetic experience, etc. Specifically, in a practical design process, four steps are used to design a mythological character, e.g., set a scenario (Illustration), tell a story (Interpretation), write a script (Reaction), and design a character (Reflection) as shown in Figure 3.

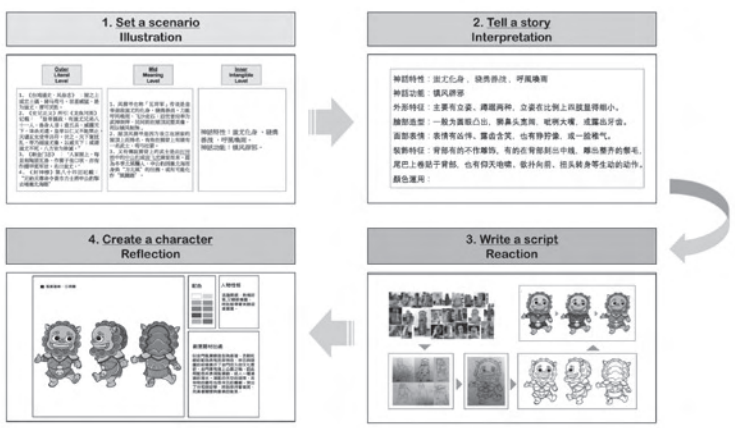

Fig.3 Animation Character Design Process

Set a scenario/ Illustration

Based on the investigation data of Chinese antiquity literature, designers must make a systematic analysis of mythology, in terms of extracting the most distinctive features of characters from myth. To clarify the development of the mythology of Shisa and explain the literature connotations, designers deeply explore the origin and the process of historical development. Shisa, also named Tile General, is the embodiment of Chi You (蚩尤) who is a vigorous opponent of the Emperor, and he can control the forces of the nature with brave and fierce. Later generations have been regarded as mars to worship, and folk sculpture stone statue on the roof to exorcise evil spirits (Xie, 2004). Lian (1920) in *History of Taiwan* wrote about there is a clay image on the roof, who rides horse and shoots an arrow from a bow with fierce expression, named Chi You. It is recorded in *New Golden Gate* that pottery beast on someone's roof, opening his mouth like a lion, looks like as a general, called Chi You (Xu, 1959). According to *Longyu Hetu*, it records that the Emperor acts as regent, and Chi You and his brothers, who have feral bodies and kill the people cruelly, but Emperor can't forbid him with righteousness, and then subdue Chi You with runes. The world hasn't been stable when Chi You died, and Emperor paints the image of Chi You to shock people (Anonymity, 1994). Another legend says that Shisa has evolved from Shen Gongbao or Huang Feihu in FengShen Yanyi which is written that Primus orders Shen Gongbao to block the spring of the North Sea with futon (Xu, 2012). In theory, it means that Shen Gongbao may change into Shisa. According to the legend, Shisa is transformed from the wind god, also named Feng Bo or Feng Ye (Xie, 2004).

Tell a story/ Interpretation

Through the above analysis of the text, collecting the pictures of Shisa in southern Fujian, eastern Guangdong, Taiwan Anping, Ryukyu Islands and other places, table 1 summarizes the characteristic of Shisa from outside to inside and sums up the basic characteristics of artistic image from mythological feature, mythology function, exterior character, facial shape, facial expression, decorative feature, posture feature and color style.

Attribution	Basic Characteristics
1. Mythological Feature	the incarnation of Chi You, brave and fierce, control the forces of nature
2. Mythology Function	exorcise evil spirits
3. Exterior character	standing posture and squatting posture, the limbs appear small in the proportion if they stand
4. Facial Shape	protruding eyes, wide nose, big mouth, exposed teeth
5. Facial Expression	fierce, ferocious, laddish
6. Decorative Feature	Neat mane, tail on the volume
7. Posture Feature	roar to the sky, rush forward, turn round
8. Color Style	red cloth, emerald green, Rich Huang

*T*able 1: Basic Characteristics of Shisa

Write a script/ Reaction

In terms of the selection of style, it is important to choose the creative expression that is suitable for the character's shape. To produce different aesthetic effects, there are different interpretations about different styles in lines, contours, colors, etc. Indeed, to express the performance of mythology with different design style, it not only conforms with the spiritual needs of viewers, but also can achieve emotional resonance about the interpretation of myth. For artistic style, three styles are attempted in this study: Single-outline Flat-color image, ink painting and vector style. For different style setting, the sketch has been drawn by designer as research objects. The inspiration of characters comes from the literature analysis, and the creative process follows mythological characteristics. Drawing the draft, essentially, is the process in which designers visualize the memory and the imagination, and is the interpretation of the two previous steps and the abstract generalization of characters as shown in figure 4.

Fig.4 Design Sketch (Single-outline Flat-color image)

Create a character/ Reflection

Theoretically, three different artistic styles have been formed with different symbolic appearance, which means that imagination is eventually created as artworks that brings audience deeply artistic experience. Firstly, Single-outline Flat-color image is the most commonly used in animation design. The initial exploration of animation reflects how the vivid form is conveyed by the flowing lines, hence complex changing lines can create a harmonious animation style. In reality, the Shisa is endowed with flexible and exquisite characteristics by the exaggerated deformation of lines, as shown in figure 4. Secondly, ink painting is a kind of traditional art forms in China that integrates with the exaggerated characteristics of animation, which has formed an innovative animation language. More precisely, the ink Shisa, an innovative attempt, expresses his texture by the diversified lines as shown in figure 5. Finally, the color of the vector style of Shisa is mainly red as shown in figure 6. Adding the modern elements in the original design, such as ties, skateboards, etc., reinvests Shisa with a lively character; adding the cultural elements of cloud pattern conforms to the traditional aesthetic principles.

Fig.5 Shisa of Ink Painting

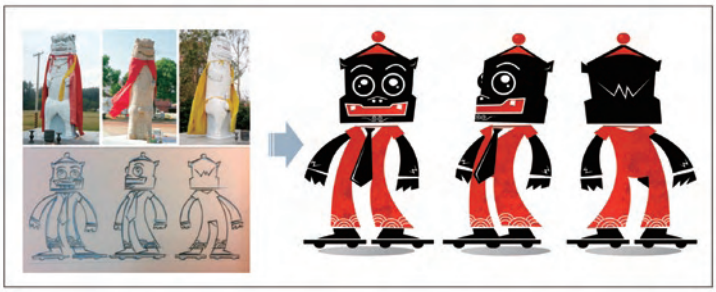

Fig.6 Shisa of Vector Style with Digital Painting

Results and Discussions

Combining with animation mythological character design model, the study constructs the animation character creative process framework through the case of Shisa with the specific ideas of creative design. This framework can be used in animation teaching practice from the arrangement of the mythological connotation to the formation of final works, providing a logical creative process, and help designers to carry out innovative research and design as shown in figure 7.

For evaluating artworks, the artist involves three key stages to express significance through his or her artworks: performance (inspiration), process (ideation), and product (implementation). Performance is the inspiration to produce a kind of significance that the artist's intentions can be expressed through the artwork. Process represents the artist's ideation that through the artwork, the artist's imagination, thoughts, and feelings can be reproduced. Product is the implementation of signification and expression which can then be transmitted to the viewer while the artist's and the viewer's thoughts are identical (Lin et al. 2009, 2015, 2016). We need a better understanding of artist-audience communication not just for taking part in the social context, but also for developing the interactive experience between artist and audience (Goldman 2004; Trivedi 2004). For the audience, there are three key stages to feel the beauty of de-

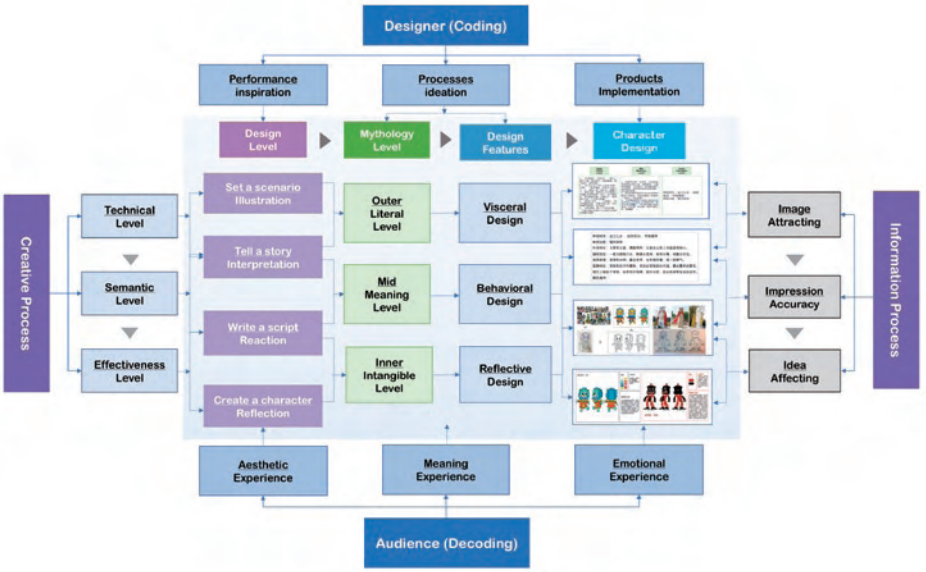

Fig.7 Animation Character Creative Process Framework

sign works: image (attracting), impression (accuracy), and idea (affecting). Accordingly, for creating design works, the framework explains how designers pass the artistic beauty of the animated works to audiences, including design level, mythology level, design features and character design, and finally achieve the code of artworks by designers and the decoding of artworks by audiences.

Heidegger (2011) profoundly demonstrates the relationship of art, artist and artwork and explains the essence of art in terms of the concepts of being and truth in *The Origin of the Work of Art*. If the animation design education can be considered as a whole system, the Chinese mythology is its essence and the designers are the core, which conveys the concept of education in the system and integrates the spirit of national culture as shown in figure 8. In the creative design process, designers transfer imagination, ideas and emotions to audiences, and audiences produce the understanding of artworks through the deep aesthetic experience, and then audiences will give the feedback to designers. It means that the construction of the model can help educators promote the development of animation education and can change the original educational model, i.e. out of the audience and the market, while designers cannot get the recognition of artworks by audiences if they design behind closed doors. In short, design education is ultimately from designers to audiences, and then audiences respond to designers. Creative process is a design medium involving cultural thinking, and aesthetic experience is an emotional medium producing cultural understanding. More precisely, design education is the base for the design of original animation.

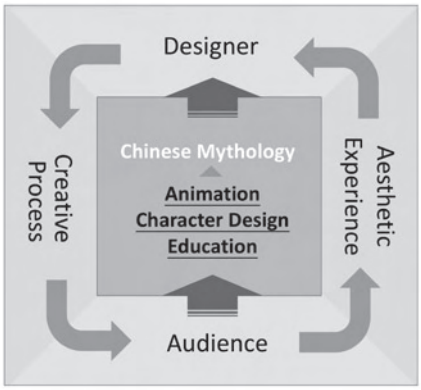

Fig.8 Animation Character Design Education

Conclusion

For the research of the animation character design based on mythology, it not only helps animation creation enrich the cultural implication, disjointing from superficial expression, but also makes the content of animation infused with national emotion. Meanwhile, Chinese culture and value can be spread incrementally by animation films that possess exaggerated and imaginative expression. As a matter of fact, the inspiration of animation is brought gradually based on the practical creations. To create the classic mythological animation image with the vitality and the artistic value, which is recognized by audience and accepted by market, it requires to have the appropriate creative principles and systematic methodologies to form a mature creative practice. After that, the process of creation will inevitably form the law of artistic creation; systematizing the law can provide theoretical support, comprehensive and effective, for animation design education.

But in actuality, the study of Shisa is just the preliminary attempt to create the animation character based on Chinese mythology, which generalizes the animation character creative process framework and then analyzes the process that designers design the artwork and audience appreciate the artwork. Surely, this theory is conducive to help designers design animation character with oriental charm, adapting to market conditions, and spread the cultural value and also provides a theoretical exploration for the development of animation education. Therefore, the design education based on mythology can cultivate the design talent who can integrate the mythological elements and has fertile imagination and multiple creativity to promote the development of domestic animation industry.

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References

Anonymity. (1994). *Weft book integration.* Shanghai: Shanghai ancient books publishing house.

Bell, C. (2011). *Art.* New York: CreateSpace Independent Publishing Platform.

Cassirer, E. (1965). *The philosophy of symbolic forms, vol. 2: mythical thought.* New Haven: Yale University Press.

Craig, R. T. (1999). Communication theory as a field. *Communication theory,* 9(2), 119-161.

Elster, J. (1968). *Karl Marx: A Reader.* Cambridge: Cambridge University Press.

Fiske, J. (2010). *Introduction to communication studies*. London: Routledge.

Goldman, A (2004). Evaluating art. *The Blackwell guide to aesthetics,* 93-108.

Hegel. (1998). *Hegel's Aesthetics: Lectures on Fine Art* (T. M. Knox Trans.). Oxford University Press.

Heidegger, M. (2001). The origin of the work of art. In R. Kearney and D. Rasmussen (Eds.), *Continental aesthetics: Romanticism to postmodernism, an anthology* (pp.182-211). Oxford: Wiley-Blackwell.

Hogarth, W., & Paulson, R (Eds.). (1997). *The analysis of beauty.* New Haven: Yale University Press.

Hume, D. (1740). *A Treatise of human nature (1967, edition).* Oxford: Oxford University Press.

Jakobson, R. (1987). *Language in literature.* Cambridge: The Belknap Press of Harvard U. P.

Langer, S. K. (1957). *Problems of art.* New York: Charles Scribner's Sons.

Langer, S. K. (1977). *Feeling and form*. New York: Pearson.

Lin, C. L., Chen, J. L., Chen, S. J. & Lin, R. (2015). The cognition of turning poetry into painting. *Journal of US-China Education Review B*, 5(8), 471-487.

Lin, H. (1920). *History of Taiwan*. Taiwan: Taiwan General History Publishing House.

Lin, R., Hsieh, H. Y., Sun, M. X., & Gao, Y. J. (2016). From ideality to reality-a case study of mondrian Style. In *International Conference on Cross-Cultural Design* (pp. 365-376). Springer International Publishing.

Lin, R., Lin, P. H., Shiao, W. S., & Lin, S. H. (2009). Cultural aspect of interaction design beyond human-computer Interaction. In *International Conference on Internationalization, Design and Global Development* (pp. 49-58). Springer Berlin Heidelberg.

Nietzsche, F., & Tanner, M (Eds.). (1994). *The birth of tragedy: out of the spirit of music* (S Whiteside Trans.). UK: Penguin Classics.

Norman, D. A. (2005). *Emotional design: Why we love (or hate) everyday things.* New York: Basic books.

Plotinus. (1962). *The enneads* (S MacKennam Trans.). London: Faber and Faber.

Trivedi, S. (2004). Artist-audience communication: Tolstoy reclaimed. *The Journal of Aesthetic Education,* 38(2), 38-52.

Wu, G. Y., & Ye, F. (2011). Animation education should go in advance of animation industry. *Art & Design*, 1(1), 122-124.

Xie, X. J. (1997). *Mythologies and national Ethos.* Shandong: Shandong Arts Press.

Xie, Z. R. (2004). *National center for traditional arts*. Taipei: National Center for Traditional Arts.

Xu, R. Z. (1959). *New Golden Gate.* Kinmen: Kinmen County Government.

Xu, Z. L. (2012). *Fengshen Yanyi.* Jun Jia Culture.

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From Technological Design to Service Innovation: A Case Study of the Development of Design Education in Taiwan

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Abstract

In today's competitive market, "innovation" serves as a competitive advantage allowing companies to dominate particular market segments. Service design has increased attention in the academic and business communities over the past decade. Based on the "Taiwan experience", the purpose of this study is to explore the development of design education by integrating the difference between technological product design and the service innovation design. Two cases are expounded for the development of Taiwan design education in this article. One is the cover design of industrial design magazine which reflected the change of product design education from function, friendly, fun, fancy to feeling. The other case is the development of The National Taiwan University of Arts which being used as an example to illustrate how to link the service innovation design and cultural and creative industries through Our Museum, Our Studio and Our Factory respectively. The results showed that the development of Taiwan design education along with the economic development from OEM, ODM, to OBM that joins design, culture, creativities and economy, and further illustrates some implications through the cultural perspective.

Keywords: design education, service innovation design, cultural and creative industries

Introduction

The trend of global economy transforming into service economy today has put the design to new arena, and it is also similar to the Bauhaus era of 100 years ago, which indicates the coming of new design era through the development of service innovation. The traditional industrial concept and creative thinking have faced huge challenges in the new economic and social situation, and the development of new design concept, design method and design tool will be inevitably transformed as well. In today's competitive market, "innovation" serves as a competitive advantage allowing companies to dominate particular market segments. The global design community thinks about design issues for user-centric, and the designers begin to be required to have the ideas, the methods and the skills that must have been beyond the traditional design because of the demand of information technology, network society and industry. Therefore, the design must return to the view of humanistic aesthetics, while technology is only a technical support tool that can't be used to lead the direction of product design. The future design trend, the integration of art, culture and science, is to solve the social problems and to reposit the form of life (Lin, 2009b). Mager & Sung (2011) proposed there was a continuous shift from the design of the tangible world to the world of interactions, moving from interaction to experience and then from experience to services. User-oriented principles make not only the manufacturing process but also the business process be taken into account in design thinking, and the trend of service innovation design is increasingly apparent.

The Taiwan design has been developed more than 50 years and the Taiwan design education has always been related to social needs, political and economic development, and science and technology situation. In the 21st century of digital technologies, it is more important that the design is based on humanity and culture, i.e., cultural and creative design. It is the task of future design education that how to transform "culture" into "creative" added into product design; i.e., how does "cultural creative" convert into "value-added design". Due to the economic transformation, nowadays, Taiwan is a service-oriented society, and industrial development is gradually changed from the "manufacturing-oriented" to "service-oriented" (Lin, 2010). The development of the design industry in Taiwan is currently in the process of enhancing design value, which steps towards the perceptual technology design of aesthetic experience (Lin, 2009a). The goals of design education are in accordance with the essence of design, but the design comply with the changes in science and technology in terms of design education that will conform to the development of times from technological design to service innovation.

Based on the development of Taiwan design education, therefore, the purpose of this study is to discuss the issue that a service innovation design approach is proposed by integrating the difference between product design and cultural and creative industries into the service innovation design of current development practice. Two cases are expounded for the development of Taiwan design education in this article. Firstly, this article will discuss the process of educational reform in Taiwan reflecting by the cover design change of "Industrial Design Magazine." Secondly, the National Taiwan University of Arts (NTUA) used as an example to illustrate how is the link between service innovation design and cultural and creative indus-

tries through Our Museum, Our Studio and Our Factory respectively. It is the service innovation design approach that joins design, culture, creativities and economy, and further illustrates some implications through the cultural perspective. Finally, there is a shift from technological innovation to service innovation that is based on discovering new opportunities in the marketplace. Companies are more focused on adapting new technologies and combining them in ways that create new experiences and value for customers. Service design has received increasing attention in the academic and business communities over the past decade. Therefore, this article is intended to give a general public idea of the chain effects expected for society by the development of the cultural and creative industries based on Taiwan design education.

Literature review

Taiwan's Economy and Design Development From OEM to OBM – Technological Design

The development of Taiwan design is accompanied by its economic development. Taiwan's companies have seen a recent transformation from technological design to service innovation design based on discovering new opportunities in the global marketplace. Taiwan's economic development was identified as progressing from OEM (Original Equipment Manufacture) to ODM (Original Design Manufacture) to OBM (Original Brand Manufacture) and represented as a smile curve, proposed by the former ACER president Shi as shown in figure 1 (Hsu et al., 2014; Hsu et al., 2013; Lin, 2012). Lin (2009a) suggested the idea that it eventually formed aesthetics and the experience economic, which corresponds to emotional technology, humanity design and the development of cultural and creative industry.

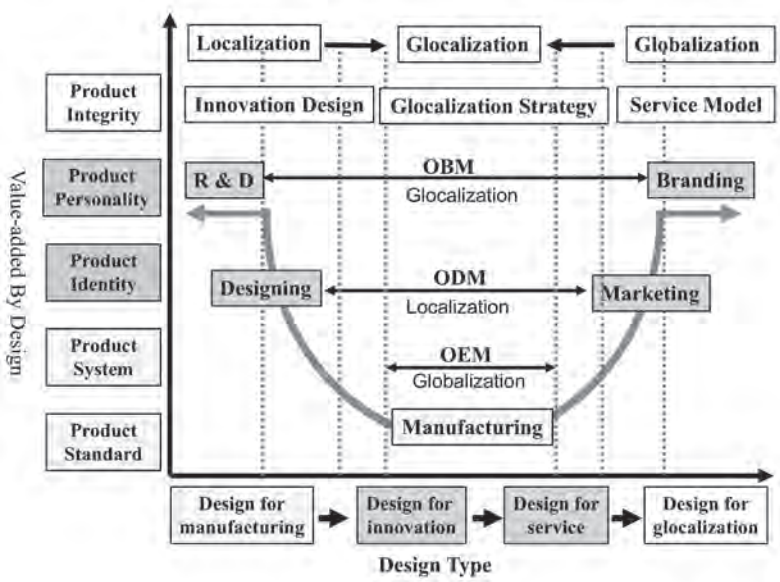

Fig.1 Taiwan's Economy and Design Development (Lin, 2012)

Before 1980, OEM vendors in Taiwan reduced costs to produce "cheap and fine" products to be successful in the global market. Those depended upon hard-working patterns from the OEM pattern became obstacles in developing their own designs. These vendors were extremely busy on producing products to meet manufacturing deadlines; there was no time to develop design capabilities so that design talents couldn't be natured (Hsu et al., 2014; Hsu et al., 2013; Lin, 2012).

After 1980, Taiwan enterprises began to develop ODM patterns to extend their advantages in OEM manufacturing. Taiwan's government promoted a series of policies to stimulate the nation's economic growth including the "Production Automation Skill Guidance Plan", and the "Assisting Domestic Traditional Industrial Skill Plan" (IDB, 2012). The design students worked with the enterprises on specific projects to set up a working pattern of industrial design based on enterprises' real needs. This model led the development of design education accordingly. Especially starting from 1989, adapting the local marketing concept of "One Town One Product (OTOP)" had started to integrate local culture with innovations and to explore the development of distinctive local industry (Rana, 2008; Scott, 2004).

The Taiwan product design has stepped into the OBM era in recent years. In addition, cultural and creative industries have already been incorporated into the "National Development Grand Plan", demonstrating the government's eagerness to transform Taiwan's economic development by "Branding Taiwan" with "Taiwan Design" based on Taiwanese culture (MOEA, 2012).

Cultural and Creative Industry — Service Innovation Design

Design is now about strategies and structures, processes and interactions – also about services (Mager, 2011). Service design has become a very popular issue today (Morelli, 2009), but the most critical part of service design is to follow the principle of user-centered. Both academics and practitioners had emphasized that the role of service design in innovative product development relates not only to aesthetics, but also to the aspects such as ergonomics, user-friendliness, efficient use of materials, functional performance, and so on (Gemser & Leenders, 2001).

Owing to the development of new ICTs, the globalization of services and the disappearance of liberalization and control, the service industry is constantly facing the pressure of innovation (Institute, 2008). In Taiwan, some domestic companies have adjusted their business strategy from product-orientation to service-orientation, e.g., ASUS and TSMC (Liu, 2012). Taiwan's industry is in the transformation period, and the center of gravity of the economy gradually has shifted the traditional manufacturing industry to the service industry, then consumers buy the commodity instead of the entity itself, which extends to the invisible meaning and identity of goods. It's difficult to attract consumers' attention with meaningless products. Service innovation combines goods with "style" and "aesthetics", i.e., the so-called "taste" of goods; since design and aesthetics have gradually become the important elements of the commodity itself, which add the quality and the brand elements, thus it will progressively focus on building "qualia" (Lin, 2011). Essentially, through the combination of design, taste of aesthetic, quality of manufacture and the brand of marketing, it is the direction that the future service innovation design will develop continuously, which creates the goods being cheerful, unique and

qualia (Chang & Lin, 2010; Lin & Lin, 2010).

The Impact of International Design Education on Taiwan

By the opening of the nineteenth century, as long as the guilds had controlled production and the training of new craftsmen, there was a sufficient supply of trained artisans, since design education was an integral part of training in a craft (Arthur, 1990). How to educate modern designers, until 1919, the German Bauhaus was the first design school to incorporate design into formal education and had solved education problems. One of the most famous slogans for which the Bauhaus is renowned is Gropius's catch phrase used for the 1923 international exhibition held in Weimar: "Art and Technology: A New Unity (Findeli, 2001)." Bauhaus, essentially, was a new thinking design school, which not only opened an innovational design education but also established a design philosophy of people-oriented, and it stressed that the purpose of the design was people instead of products and they would design the practical life products with the cooperation of local business. Bauhaus combined with handicrafts and industrial technology to cultivate the future social builders, pursuing rational design thinking and guiding a new direction for modern design. Bauhaus design ideal, driving the modern design movement, has created a twentieth century modern style (Lin & Wang, 2008).

The development of early Taiwan design was deeply influenced by the educational concept of Bauhaus, therefore, it also followed the education concepts of Bauhaus. The earliest concept of Taiwan design was from Council for United States (CUSA) to plan how to promote Taiwan's industrialization, and civil institutions set up the organization promoting handicrafts and industry (Industrial Design Magazine, 1971). In 1957, the National Taiwan University of Arts established art and craft department, the first design department in Taiwan, which upheld the educational spirit of Bauhaus and opened Taiwan design education. The process of Taiwan design education is the reaction of the spirit of Bauhaus and the design education ideal based on practice. Mingchi Institute of technology firstly established industrial design department in 1964, and then many technical colleges and vocational schools set up the design departments afterwards. In 2000, many universities including National Cheng Kung University, National Chiao Tung University, National Yunlin University, National Taiwan Technological University, etc., set up Ph. D. Program, which open up a higher design education status in Taiwan. If Taiwan's economic miracle is due to the thrift habits, Taiwan's design miracle is due to pragmatic design education. Overall, the Taiwan design education originated from the technical education system of pragmatic practice, which corroborated Bauhaus' the design education concept of the combination of theory and practice, and now create a Taiwan economic and design miracle.

Recently, most of the design schools such as National Taiwan University of Arts began to rethink the new unity between art and technology, and to reorient the technology and humanities in design education, to explore how to adapt to social changes and technological development, and enhanced the value of modern design education to reproduce the design education ideal of Bauhaus (Lin, 2010).

Research Framework

Based on the previous studies, a research framework was proposed as Figure 2. There are two aspects in this study including the development of "Industrial Design Magazine" and The National Taiwan University of Arts. More precisely, one is to discuss the design education process from function to feeling, including five stages such as functional valuation, usability valuation, aesthetic valuation, identity valuation and emotional valuation, and final aim is to achieve service valuation. Then, another one is to discuss a case study of The National Taiwan University of Arts through Our Factory, Our Studio and Our Museum in order to demonstrate that a shift from technological design to service innovation in Taiwan design education.

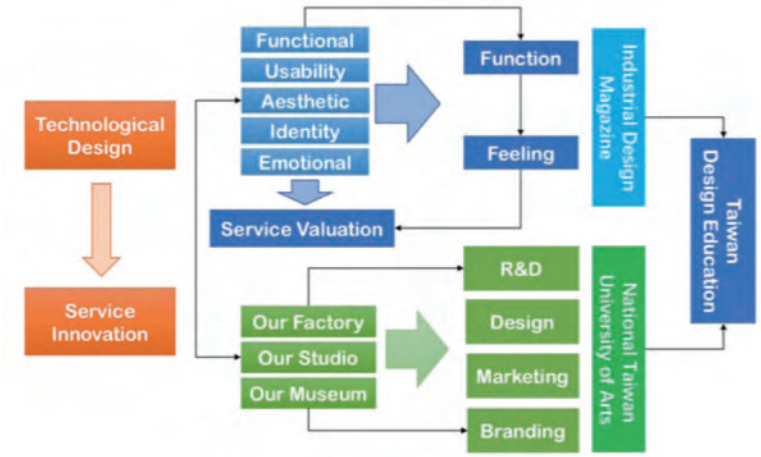

Fig.2 Research Framework

Results and Discussions

A case study of "Industrial Design Magazine"

Industrial Design magazine is the first Chinese industrial design magazine of the world, founded in December 15, 1967, which recorded nearly half a century of Taiwan's design evolution and the process of Taiwan's industrial design education. The magazine was funded by Wang Yung-Ching who set up industrial design department of Mingchi Institute of technology, which presented the history of Taiwan's design education.

Nowadays as we put a high value on culture and creativity, the Industrial Design magazine is undoubtedly the most important cultural assets of the design industry, which recorded the transformation of Taiwan's design. As shown on Figure 3, the cover of early magazines was made up of simple dotted lines and white ground, then emphasized the visual effects of the cover with photography techniques, afterwards published by a work for each issue, for instance, some of these works focus on design, some emphasis on shape, some centered on interesting and some focus on semantics, etc., which vividly described the diverse design works and indi-

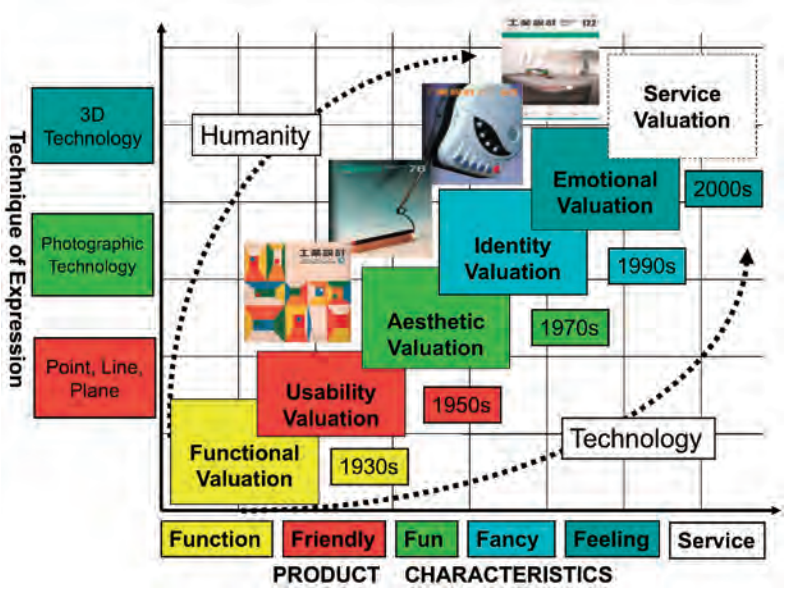

Fig.3 Taiwan Design Development from "Function" to "Feeling"

vidual style. With the progress of science and technology, there were a great deal of 3D works. This process identifies the progress of Taiwan's industrial technology, thus can summarize the transformation of product design from function to feeling.

From the history of the development of modern product design, we could use five "Fs" to describe the change from designing "function" for the user's need to servicing "feeling" for the user's pleasure as shown in Figure 3. These five F's are: (1) 1930's – design for "Function", (2) 1950's – design for "Friendly", (3) 1970's - design for "Fun", (4) 1990's – design for "Fancy", and (5) 2001's – design for "Feeling" (Hsu et al., 2014; Hsu et al., 2013; Lin, 2012; Lin, 2012). These five "Fs" also reflect the process of Taiwan design development from Industrial Design Magazine. The development of Taiwan design industry is also generally follow this trajectory, and the core value of its design basically transform the needs for functional and physiological into the needs for aesthetic and psychological, to put it simply, which is from function to feeling

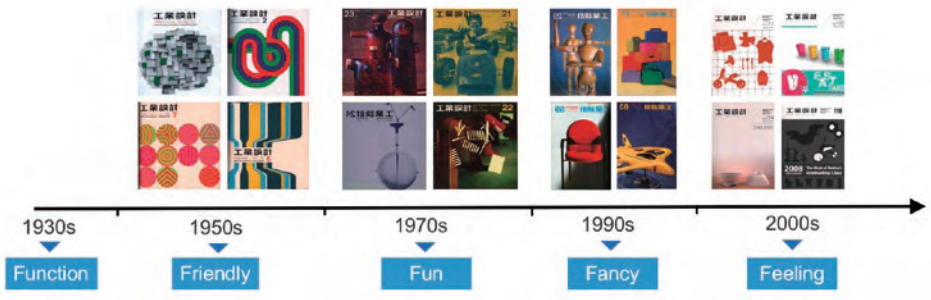

Fig.4 The Development of "Industrial Design Magazine" from "Function" to "Feeling"

(Lin, 2005).

In the era of digital technology in the 21st century, the design of human nature is more important, i.e., form follows feeling, which emphasizes aesthetic experience, i.e., the pleasant design. Through reviewing the development of industrial design magazines, we have found that design has returned to the level of human nature, which is to emphasize the creative life of the aesthetic (Lin, 2008a, 2008b, 2008c).

A case study of The National Taiwan University of Arts

Design Education Function of Cultural Creative Industry Park

National Taiwan University of Arts (NTUA) established an art museum, known as "Our Museum", in 2007 for the purpose of linking professional teaching with the museum's research, education, and display functions while presenting cultural and aesthetic ideas about art and artifacts to the public. Developing craftsmanship and creativity as well as competences related to the arts are important strategies to NTUA. Therefore, a design studio, known as "Our Studio", was set up at the college of design in NTUA, following the "Our Museum" for providing innovative products. NTUA is located in the Taipei metropolitan area, one of the most competitive regions in Taiwan. This area contains a significant concentration of craftsmanship and research establishments, linked by various formal and informal networks. Due to the challenging nature of cultural and creative industries, NTUA is devoted to developing its regional and international networks by operating a cultural and creative industry park, known as "Our Factory." NTUA has established the link between "Art" and "Business", and combined "Creativity" and "Design" through Our Museum, Our Studio and Our Factory respectively.

New Service Concept: Our Museum. The purpose of Our Museum is to achieve the "Creative Learning" through "Digital Archive." On the technical level, Our Museum has the symbolic meaning of "Digital Archive", meanwhile, and achieve the purpose of creative learning education, which can play an efficient role in Digital Museum. The key concept of Digital Museums comes from the knowledge, which means that museum can be shown by teachers, students etc. who want to visit the museum without limits. The cultural and creative industries are the combination of art and technology, thus "Digital Archive" of Our Museum is to remind students the idea of "technology can't be buried", which achieves the educational function of "craftsmanship can't be lost", i.e., new service concept.

New Service Organization: Our Studio. The purpose of Our Studio is to achieve "knowledge economy" and "aesthetic economy" through "culture creativity". Our Studio, with the transformation of Taiwan's economic development, is based on the National Taiwan University of Arts whose specialty is the education of art, culture and design, which has formed cultural and creative industry chain that integrate the cultural creativity, design innovation and marketing. Our Studio works with the relevant industry to facilitate the operation with each other, which has established the models of market analysis, economic benefit assessment. Specifically, Our Studio has created regional creative industries through the development of "creative value-added products" and "localization industry", which is considered to be new service connections.

New Service Connection: Our Factory. The purposes of Our Factory are to achieve the

promotion of cultural creative industry and make the artistic craftsmanship into business. To follow the concept of national cultural park, the paper factory near NTUA was converted to Cultural Creative Industry Park, which was a pioneering work for the development of design education. NTUA also launched a series of plans of cultural and creative industries including ceramic craft workshop, glass craft workshop, comprehensive craft workshop etc. Our Factory transforms art, design, performance, dissemination etc. into ceramic crafts, glass crafts, and integrated crafts to achieve the innovation art, which is new service connections between art and business.

The Successful Operation of "Mufun Design Studio"

"Mufun Design Studio", based on its own design philosophy, has achieved success from art to industry by finding Taiwan cultural material, and created creative design work to build wooden doll brand, as shown in figure 5. This Studio is focus on the design and development of woodworking products so that wood is no longer just furniture, containers or building blocks, whereas they are cultural, fun and creative. "Mufun Design Studio" embodies the teaching theories of the Taiwan University of Arts, which has transferred from cultural creativity to the design according to the cultural characteristics of Taiwan. As a result, it is a successful case of Cultural Creative Industry Park, which achieves the goals combining skills, creativity and business.

Our Museum: The students of "Mufun Design Studio" created works with culture and creativity, and the works were mostly on the extension of traditional culture and were to achieve the concept of local conservation. Our Museum provided students with material about skill study and inspiration of creativity.

Our Studio: "Our Studio" helps students of "Mufun Design Studio" realize an advanced application of their skills and improve the design process, and provides a space for starting a business with the assistance of The National Culture and Arts Foundation and professional guidance. Students design creative products through the course of learning to explore different creative business models through practical research, and then achieve the educational purposes combining practice and theory.

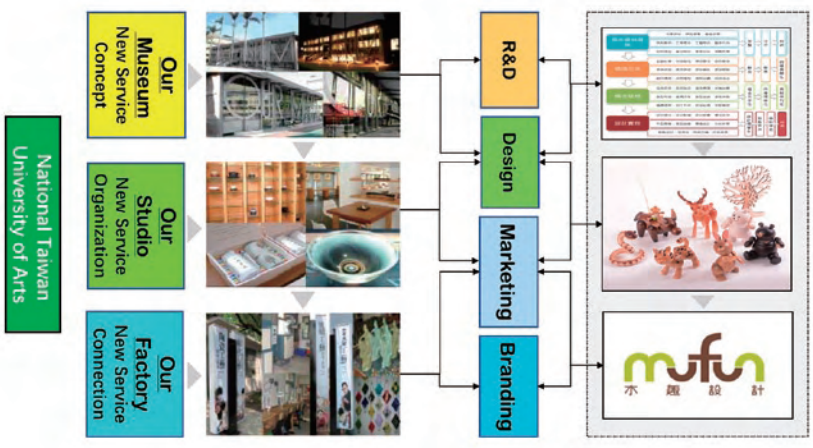

Fig.5 Design Education of The National Taiwan University of Arts

Our Factory: "Mufun Design Studio" establishes a win-win cooperation between designers and manufacturers with the shared concept to solve problems of quality and production, which sets up own brand and successful business model. NTUA has established the link between "Art" and "Business."

Conclusion

Based on the previous studies and Taiwan experience, this paper researched the process from technological design to service innovation which were merged into design thinking to explore Taiwan design education development. Firstly, this paper explored the relationship between Taiwan's economy and design development, and then identified the three stages of OEM, ODM and OBM for illustrating how to transform "local culture" into "global market" through a process of design evolution in Taiwan design development. Afterwards, the article explained the concepts of service innovation design. Secondly, according to the impact of international design education on Taiwan, this study elaborated the process of design education that was deeply influenced by the educational concept of Bauhaus.

As a result, "Industrial Design Magazine" is the first study case to explore the development of Taiwan design education, which identified technological progress has shifted dramatically and provides platforms for completely new forms of "design" and "service" delivery. National Taiwan University of Arts, a typical example of Taiwan creative industry design education, has solved the problems of art education and provided a new direction for the development of design education. The goal of the cultural and creative park is to combine artistic craftsmanship and economy with service design, and ultimately establish NTUA as a distinctive trademark associated with the park. To accomplish this goal, NTUA aims to combine artistic craftsmanship from "Our Museum" with cultural creativities from "Our Studio" in order to result in aesthetics in business for "Our Factory". Creativity and business are the elements for reaching an aesthetic economy. It is the concept of "Think Globally - Act Locally" to process the "Digital Archive" of Our Museum through the cultural creativities of Our Studio, and to produce cultural products in Our Factory in order to establish a local industry by making aesthetic and economical products (Ko, Lin & Lin, 2009). Meanwhile, NTUA, with the transformation of service innovation, has enriched the connotation of cultural and creative products through culture and creative, innovative value-added, R&D design, etc., which cooperates with the relevant industry to facilitate the operation through market analysis, economic benefit assessment and business model.

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References

Arthur Efland. (1990), *A History of Art Education: Intellectual and Social Currents in Teaching the Visual Arts,* Teachers College Press.

Chang, S. R. & Lin, R. (2010). A Study of Applying Service Innovation Design in Creative Industries – A Conceptual Model of Total Customer Experience, *Proceedings of The 2nd International Service Innovation Design Conference (ISIDC 2010)*.

Gemser G., & Leenders M. (2001) How integrating industrial design in the product development process impacts on company performance. The Journal of Product Innovation Management, 18, 28-38.

Findeli, A. (2001). Rethinking design education for the 21st century: theoretical, methodological and ethical discussion, *Design Issues,*17 (1), 5-17.

Hsu, C. H., Fan, C. H., Lin, J. Y., & Lin, R. (2014). An investigation on consumer cognition of cultural design products. *Bulletin of Japanese Society for the Science of Design,* 60(5), 39-48.

Hsu, C. H., Chang, S. H., & Lin, R. (2013). A design strategy for turning local culture into global market products. *International Journal of Affective Engineering (Kansei Engineering International Journal),* 12(2), 275-283.

IDB. (2012). 2012 Annual report of Taiwan's cultural & creative industries. *Taipei: Industrial Development Bureau (IDB) of Ministry of Economic Affairs.*

Industrial Design Magazine. (1971). A Brief History of Taiwan Industrial Design, *Industrial Design,* 16,10.

Institute for Information Industry (2008). See, service experience engineering- Research part. *Taipei: Ministry of Economic Affairs*.

Ko, Y. Y.; Lin, P. H.; Lin, R. (2009). A Study of Service Innovation Design in Cultural and Creative Industry, *International Conference on Internationalization,* 376-385.

Lin, C. C. (2010). The Thinking of Taiwan's service industry development under the free trade. Chung-Hua Institution for Economic Research: Taiwan WTO center, *WTO Newsletter,* 236, 2-8.

Lin, R. (2005). Creative learning model for cross cultural product. *Art Appreciation,* 1(12), 52-59.

Lin & Wang. (2008). A Study of Development and Prospect of Taiwan's Design Industry in 2003-2005. *Art Newspaper*, 82, 49-70.

Lin, R. (2008a). Service Innovation Design for Cultural and Creative Industries – A Case Study of the Cultural and Creative Industry Park at NTUA. *International Service Innovation Design Conference 2008*, *20-22 Oct*. Dongseo University, Korea. 14-25.

Lin, R. (2008b). A Framework for Human-Culture Interaction Design – Beyond Human-Computer Interaction. *International Symposium for Emotion and Sensibility 2008*, June, 27-29, KAIST, Korea. p8.

Lin, R. (2009a). Cultural and creative product design: from the emotional technology, human design and cultural creativity. *Humanities and Social Sciences Newsletter Quarterly,* 11(1), 32-42.

Lin, R. (2009b). A Study of Integrating Culture and Aesthetics To Promote Cultural and Creative Industries. *Art Journal,* 6(1), 81-105.

Lin, R. (2010). The Influence of Bauhaus Style on Taiwan Design Education*, Art Appreciation,* 6 (3), 28-43.

Lin, R. (2011). From Service Innovation to Qualia Product Design. *Design research,* 6(1), 13-31.

Lin, R. (2012). From Dechnology to Humarts in Taiwan Design Development. *Research project supported by Taiwan National Science Council.*

Mager, B., & Sung, T. J. (2011). Special issue editorial: Designing for services. *International Journal of Design*, 5 (2), 1-3.

MOEA (2012). Taiwan annual report: Cultural and creative industries. *Ministry of Economic Affairs, Taiwan, Republic of China*.

Morelli, N. (2009). Service as value co-production: Reframing the service design process. *Journal of Manufacturing Technology Management,* 20(5), 568-590.

Rana, E. C. (2008), Sustainable Local Development Through One Town One Product (OTOP): The Case of OTOP Movement in Mindanao, Philippines, *Journal of OVOP Policy*, 1, 31-38.

Scott, A. J. (2004) Cultural-products industries and urban economic development - Prospects for growth and market contestation in global context. *Urban Affairs Review*, 39(4), 461-490.

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