

De Stijl's Principles and Their Roles on Modernist Furniture Movement: A Comparative Analysis

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Abstract

'De Stijl' had its significant role on the modernist architects; many famous architects and designers had been influenced by this style in design. The paper aims to identify the penetration of 'De Stijl' principles into the furniture design and its influence on modernist furniture designers. The similarities and differences between 'De Stijl' styles and modernist movement designs have been evaluated through several indicators that were formulated based on theoretical analysis of the literature. The study analyzed many modern furniture designs by several famous modernist designers. The study focused on the chair design by famous modernist architect designers, like Alvar Aalto, Marcel Breuer, and Le Corbusier. A comparative analysis has been carried out between these furniture designs and 'De Stijl' furniture. The result demonstrated that there is a great influence of the 'De Stijl' movement principles on the modernist furniture movement.

Keywords: De Stijl Movement, Modernist Movement, Modernist Chair Design.

1. INTRODUCTION

'De Stijl' had its special importance for architects and designers. Theo Van Doesburg as the establisher of this movement in 1917 and his associates who regulate and codified the aesthetic practices of cubism. They codified what was important for architecture as a ground of whole the arts not only of painting (Denker, 1982). 'De Stijl' aesthetic was so influential architecturally because modern-minded architects and designers had been searching and which earlier "modern movements" like Art Nouveau or the Arts and

Crafts movement. The most important factor that let architects and designers influenced by the 'De Stijl' because its theories appeared to involved architecture into a global theory of art which, since the disintegration of the revivalisms of the nineteenth century. Second, the aesthetic features of de 'De Stijl' suited to architectural principles of the new movement at that time. Regular rectangular shapes with skeleton combination ways which were beginning to be admired. The separation of the volumes for the purpose of functional articulation of buildings. Moreover, the most important the magical asymmetrical in balancing the reassembled elements presented a new way of architectural composition (Barr, 1961).

Modern design started when mass production hit out the crafts; in other words, it is a consequence of the industrial revolution. Immediately following the industrial revolution of the nineteenth century few people could see the possibilities of the new materials and new tools. With the rise in the industrialized designs which are typical of this movement. Rennie Mackintosh started to utilize geometric shapes which were simpler to mass deliver. In addition, somewhere in the range of 1919 and 1933 the German school of workmanship and design called the Bauhaus was creating design which was made for large-scale manufacturing yet it was thirty years after the fact that industry got up to speed with this reasoning and could make the structures for items, for example, furniture and lighting economically enough and in substantial amounts (Greenhalgh, 1990). There is a lack of understanding about the influence of the 'De Stijl' movement in the modernist furniture and the similarity between the famous works of 'De Stijl' movement and known modernist works in the field of furniture. The study tries to answer a few questions which are; 1) Which range the 'De Stijl' movement has been influenced by the modernism movement in furniture design? 2) What is the main difference between the De Stijl as movement and modernist movement in architecture and design?

The study aims to reach comprehensive understanding about the permeation of 'De Stijl' or (neo-plasticism) into the field of interior design and its consequent influence on modern furniture design. This study tries to investigate the diffusion of 'De Stijl' principles into modernist furniture thinking and its resulting effect on the configuration of objects and study the relationship between interior space and the furniture. Several of the modernist designers who have contributed to the development of design were considered and compared with the most famous 'De Stijl' designer's work. To understand and illustrate the similarities and differences the study introduced and analysed many designed furniture from 'De Stijl' movement and modernist furniture and focused on the chair design for several famous designers in order to examine the grade of influence for 'De Stijl' movement principles into modernist furniture movement.

2. LITERATURE REVIEW

Through the survey of literature, the study found that many researchers have agreed that the 'De Stijl' movement influenced modernism in architecture and design. Seuphor, (1972), stated that the first issue of 'De Stijl' appeared with Mondrian's essay in October 1917, which titled 'New Plasticism in Painting'. Furthermore, according to Vincent Scully, (1960), the International Style of the twenties and thirties inspired from Mondrian's principle of the crossing lines, balanced proportions, and his planes of primary colour. As Jaffe (1967), he pointed out the influence of 'De Stijl' on the Bauhaus was more than the reverse. The connection of architect J.J. Oud's as one of the 'De Stijl' group with the Weimar Bauhaus came out with the formulation of the logical functionalism idea which had been taken from the 'De Stijl' principles. Furthermore, Collins (1965), states that the abstractions in some famous modernist architects work as Mies van der Rohe, reflect the influence by the flat patterns and coloured rectangles of 'De Stijl' characteristics. In order to identify the level of influence it is necessary to gain a background by reviewing the history of

the ‘De Stijl’ and modernist movement, moreover, define the principles and philosophies of design for each of them.

2.1 History and Principles of De Stijl Movement

‘De Stijl’, is one of the longest-lived groups, was created in Netherlands through the WWI. From the very beginning it was obvious by special collaboration between painters and sculptors on the one hand and designers and architects on the other hands. It contained two of the finest artists of the period among its leaders, the painter Piet Mondrian and the architect J. J. P. Oud; but its great influence was spent principally through the theory and tireless propaganda of its founder, Theo van Doesburg, painter, architect, sculptor, typographer, novelist, poet, critic and lecturer, as versatile person (Barr, 1961). Van Doesburg, J.J.P. Oud, as well as Vilmos Huszàr (Hungarian artist), with the cooperation of poet Anthony Kok had been found De Stijl in 1917.

The primary principals and characteristics of what ‘De Stijl’ stood for is a pure universality through decrement of elements to the fundamental bases of form and colour, especially the use of vertical and horizontal lines in synchronized with black, white and the essential colours. Work must avoid symmetry. Aesthetic balance is attained by opposition (Samuel, 2005). Mondrian, as one of the important participant in ‘De Stijl’, had been written a letter in 1914 to Dutch artist Bremmer, states;

“I construct lines and color combinations on a flat surface, in order to express general beauty with the utmost awareness... I believe it is possible that, through horizontal and vertical lines constructed with awareness, but not with calculation, led by high intuition, and brought to harmony and rhythm, these basic forms of beauty, supplemented if necessary by other direct lines or curves, can become a work of art, as strong as it is true” (Blotkamp, 2001).

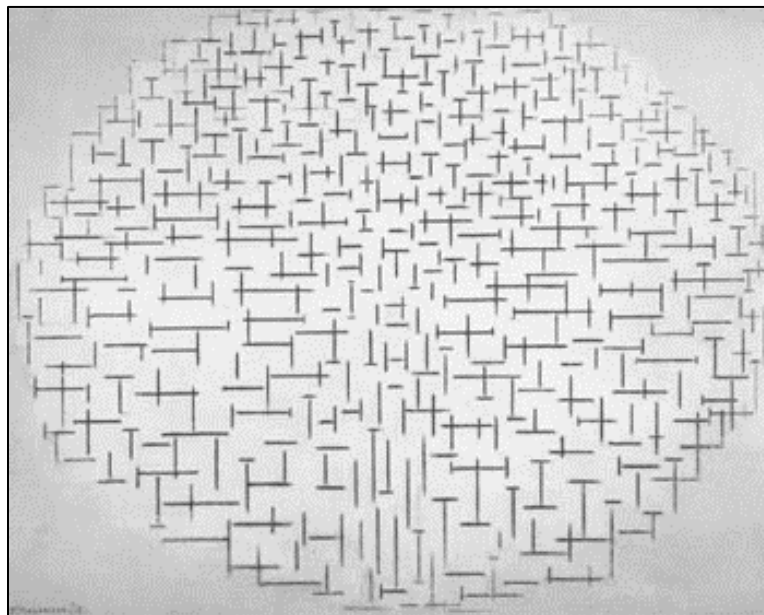


Figure 1. Piet Mondrian: Composition. (Pier and Ocean), 1915. Oil on canvas, 34 x 42%" (Barr, 1961)

Generally, according to Nixon (2007), he summarizes the De Stijl tendencies in Table 1. where it demonstrates what is the favoring and what it is against according to this movement principle in the design.

Table 1. It shows what the De Stijl movement inclines for according its principles (Nixon, 2007).

FAVOURING	AGAINST
Universality	Individuality
Depersonalisation	Personalisation
Mechanical perfection	Craftsmanship
Plasticism/Abstraction	Representation
Purity	Variety
Formal/geometric	Natural/organic
Order	Chaos
Formal relationships	Narratives
Positive <i>and</i> negative	Positive only
Asymmetry	Symmetry

The Red and Blue Chair by (Gerrit Rietveld), 1918– ‘De Stijl’ Style

Gerrit Rietveld was a famous furniture designer and architect during the twentieth century. He designed the Red and Blue Chair in 1918, to be one of the iconic pieces for the ‘*De Stijl*’ style in design (Reilf, 1988). The chair is contained by the red back part which act as the spine and all the branches are linked, the backward slope blue seat, and the black legs and arms. The design considers one of the examples of the ‘*De Stijl*’ movement, because it is influences by Piet Mondrian, geometric organization of the composition taken from cubism and the use of the rectilinear designs of Frank Lloyd Wright (Flynn, 2015; Al-Saati, 1992). Gerrit Rietvelds believes that beautiful functional furniture should be made available to the all the people. He designed the furniture made form cheap timber like pine wood and plywood and finished with paint. The finishes were followed by his work with ‘*De Stijl*’, through employing only the essential colors with just natural finishes. Where, it was made from pine supports, plywood back and seat, and finished in black, red, blue, and yellow essential colors (Zijl, 2010). The chair seems not comfortable, which indicates that Rietveld viewed aesthetics over functionalism. All the pieces in the chair are either square or rectangular section, and they are highlighted by painting them with yellow on the piece ends.

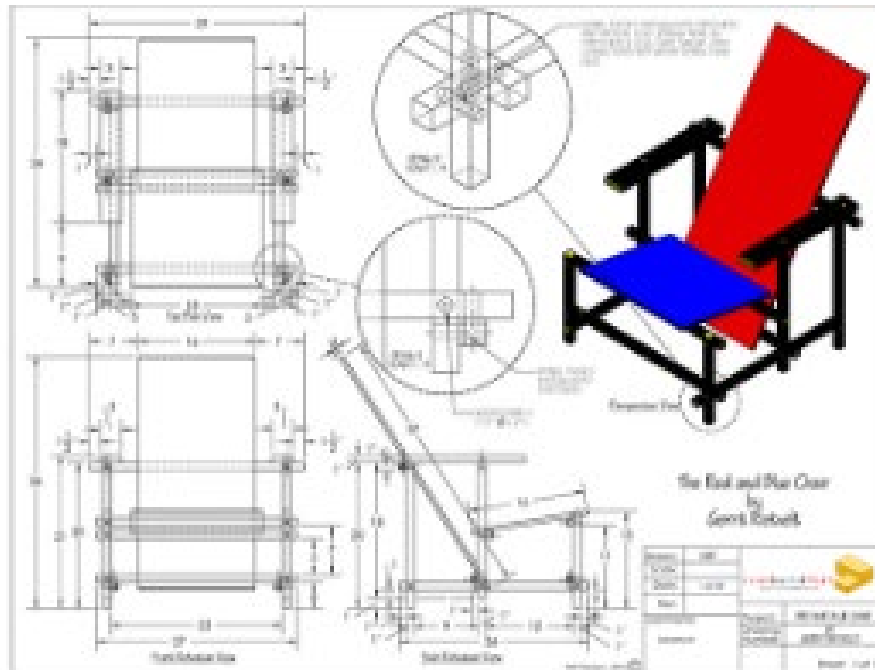


Figure 2. Red and Blue Chair by (Gerrit Rietveld), 1918

Modernist Movement History and characteristics in Design and Furniture

The concept of modernism is based upon a break with tradition and historicist design prevalent previously (Calinescu, 1987). Modernism, in its wide definition, is modern character, thought, or exercise. More precisely, the modernist movement refers to series of cultural inclinations and group of associated cultural movements, originally arising from wide-scale changes to Western society in the late 19th and early 20th centuries. Where, the first half of the 19th century for Europe was remarkable by several wars and revolutions, which contributed to an aesthetic "turning away" from the political and social realities (Barth, 1979). Modernist movement is the outcome of the "function dictates form" school of thought; Modernist design did not emerge suddenly. It has been the outgrowth of the development of several new techniques and direction of thought concerning design.

Modernist furniture is characterized by simplicity, practicality and flat lines, in addition to that, the modern approach is concentrates, firstly on function and obviate the excessive ornamentation, which is present in several styles. Modernist style is bringing a sense of delicacy and purity. This style is using basic colors which are, black, white, gray and other neutral tones that bring brightness and pure color or contrast (Sandeva, et al., 2013).

3. METHODOLOGY

Theoretical analysis will be conducted through survey the literature in order to explore of the formal similarities between 'De Stijl' movement and modern movement in furniture, through the critical comparison of 'De Stijl' designs of Gerrit Rietveld, as one of the important contributors in De Stijl

movement, in addition to be one of the twentieth century's most influential designers, modernist furniture designs, with the design of the famous modernist designers. The research study is planned to be limited by the analysis of furniture, and only the design of chairs. Comparative table will be implemented to compare the similarities between '*De Stijl*' designs and modernist designs in shape and colors, materials, universality and the functionality in the design of furniture.

- Shape and Design: Refers to the emphasis on complete abstractions, consisting of flat patterns and basic colors, as well as pure geometrical shapes, such as rectangles, squares, straight lines (Nixon, 2007; Samuel, 2005; Al-Saati, 1992).
- Materials: It is referring to the cheap and available materials in order to be accessible to everyone (Al-Saati, 1992; Flynn, 2015).
- Universality: Refers to furniture should be available and used by the masses, instead of a beautiful piece only being used by one individual (Zijl, 2010).
- Functionality: it is referring to the comfort of the design for the users (Wilk, 1981)

Thus, based on the previous indicators three case studies have been selected to be analyzed, as seen in the methodology roadmap in Figure 3.

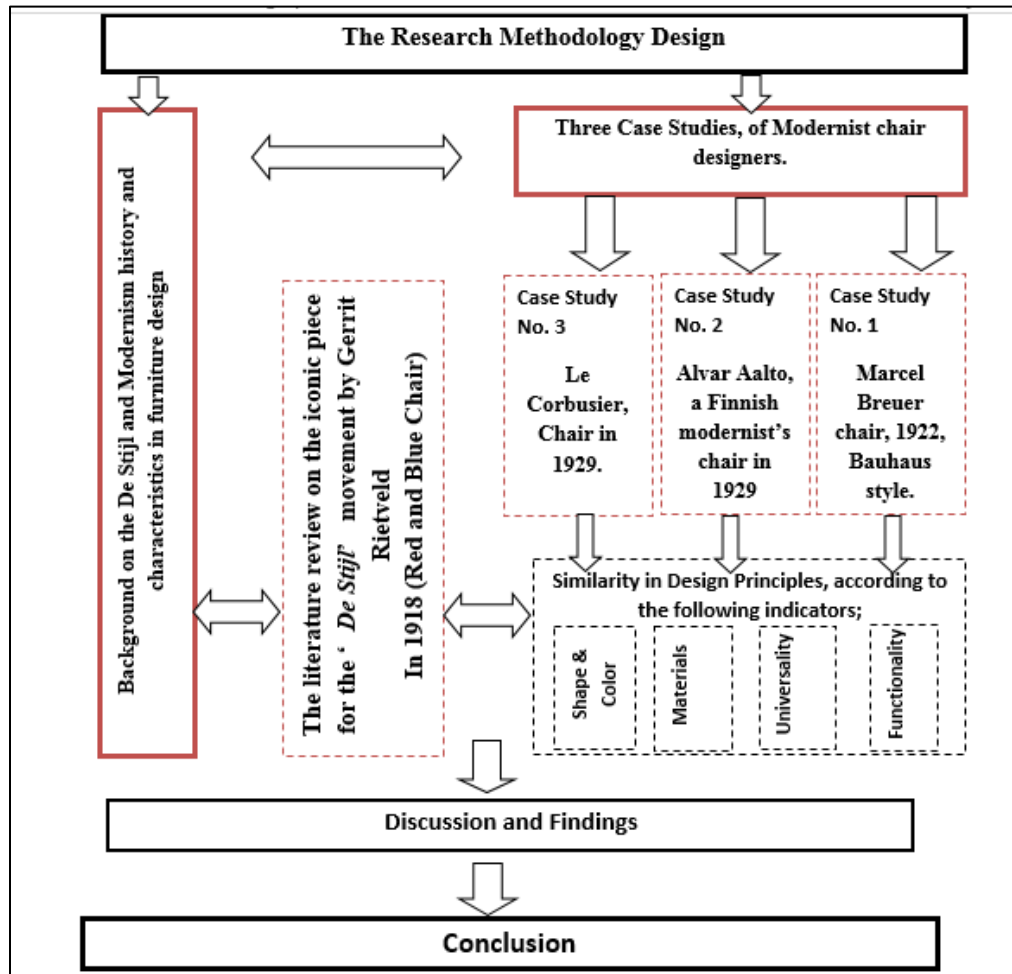


Figure 3. Methodology roadmap

3.1 Description of Case Studies

Three case studies have been selected from different famous modernist designers in order to examine the influence of 'De Stijl' movement characteristics on their works.

3.1.1 Marcel Breuer chair, 1922, Bauhaus style

In 1922 Marcel Breuer developed an oak lath armchair, produced at the workshops of Bauhaus at Dessau. Rectilinear construction incorporating standardized strips of dark stained oak, slung canvas seat and two canvas back straps. It is one of the designs of Bauhaus, which shows the influences of this designer by 'De Stijl' style, where Breuer's design reflected the influence of Rietveld's furniture. The Breuer armchair can provide comfort to the users, but it does not allow the sitter to alter the essential structure of the chair. While, Rietveld's chair, neither invites sitting nor comfortable seat and back. Breuer carefully differentiates between the soft spans of material that form part of the overall composition of the chair; and the hard parts

of wooden components which constitute structural frame, in addition to the certain anthropomorphic appearance (Wilk, 1981).



Figure 4. Breuer oak lath armchair, 1922. Bauhaus

3.1.2 Alvar Aalto, a Finnish modernist architect's chair in 1929

Hugo Alvar Henrik Aalto (1898 –1976) was a Finnish architect and designer, as well as a sculptor and painter. He designs a chair in 1929, for Huonekalu-ja Rakennustyötehdas (Furniture and Construction Factory) in 1929. This chair characterized by unornamented, simple and visually economical chair, and designed for mass production. Made from birch wood, with a laminated plywood seat and back, and it is comfortable. Alvar Aalto's designs, were connecting with the growth of furniture-making by machine (Moma, 1938).



Figure 5. Aalto chair for Huonekalu-ja Rakennustyötehdas, 1929

3.1.3 Tilting Back Seat (Siège à Dossier Basculant), Le Corbusier, 1929

Le Corbusier the Swiss-born architect was an influential supporter for the principle of modernism and rationalization in furniture. He employed modern industrial ways to create design codes based on the concepts of automobiles or ocean liners. Le Corbusier called the house as a “machine for living in,” and described domestic furnishings as equipment. This chair, designed with his associates Pierre Jeanneret and Charlotte Perriand, represent these principles. The chair was designed to the proportions of the human body, and has pivoting back upholding, hence, called ‘Tilting Back Seat’. The design reduced to essentials, with simple form, made of canvas and industrial tubular steel, easy for mass production and cheap. It is reflecting concept of furniture as equipment. The chair was used most influential houses, including the Villa Savoye (Ruegg & Spechtenhauser, 2012).

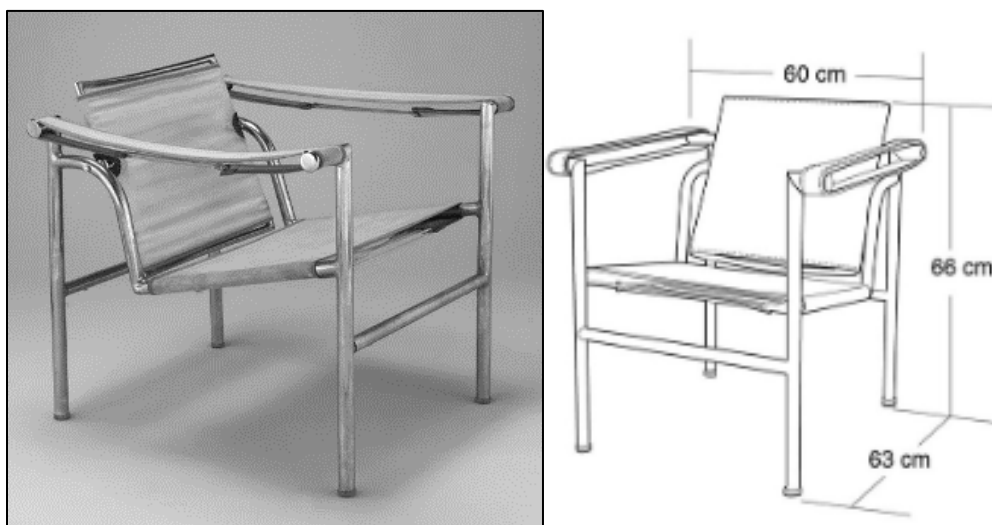


Figure 6. Le Corbusier chair called (Tilting Back Seat), 1929

4. FINDINGS AND DISCUSSION



Evaluation of the selected case studies from modernist designers in different times after Red and Blue chair have been carried out, in order to examine the influence of ‘De Stijl’ on the modernist designers. According to the literature and theoretical analysis, similarities and differences have been identified, based on the assessment of the following indicators.

Table 2. Main Indicators to assess the influence of ‘De Stijl’ style on modernism

No.	Comparison indicators	References
1	Shape and Design	(Nixon, 2007; Samuel, 2005; Al-Saati, 1992)
2	Materials	(Al-Saati, 1992; Flynn, 2015)
3	Universality	(Zijl, 2010)
4	Functionality	(Wilk, 1981)

Comparative analysis has been carried out, between the Red and Blue chair by Gerrit Rietveld in 1918, as an example of ‘De Stijl’ style of design in one side and in another side, three chairs have been designed by famous modernist designers. When the indicator is matching to the Red and Blue Chair, white color in the square is marked and when the indicator is partially matching, then light grey is marked and if the indicator is not matching completely, the dark grey is remarked. The percentage of the similarity has been statistically evaluated and the percentage of similarity have been obtained, through giving each indicator 25% if it is completely matching with Gerrit Rietveld's design of Blue & Red chair. While half of the score has been given to the partially matching the indicator of Gerrit Rietveld's design, and 0% for which is completely not matching the indicators, as seen in Table 3.

Table 3. The comparative analysis table between Modernist design of chairs and De Stijl design

Case study	Picture	Shape & Design							Similarity
		Abstraction	Pure geometrical shapes like square, lines.	Flat patterns and basic colors	Materials (cheap and available)	Universality (mass production)	Non-Functionality		
The Red and Blue Chair by (Gerrit Rietveld), 1918– ‘De Stijl’ Style		8.33%	8.33%	8.33%	25%	25%	25%	100%	54
Marcel Breuer chair, 1922, Bauhaus style.								75%	

Alvar Aalto, a Finnish modernist architect's chair in 1929.



70.9%

Tilting Back Seat (Siège à Dossier Basculant), Le Corbusier, 1929.



75%

CONCLUSION

The 'De Stijl' characteristic had a significant effect on the modernist architects and designers, because of new shapes and ideas which was the aim of architects and designers of "modern movements". Therefore, the paper tried to investigate the range of influence of 'De Stijl' style in furniture design of the modernist furniture. The results demonstrated that there is a great influence for the 'De Stijl' style on the modernist furniture. The shape and design have been similar to the Red and Blue chair by using straight and simple lines in the structure, in addition to the basic colors, lines and elements, except the arm were missing in Aalto design where he removed the arm of the chair in his design. All the designed chairs used cheap and available materials in order to achieve economic factor which is exactly what the Red and Blue chair aimed. The universality has been achieved in all the chairs through make it available and usable by the masses, not only selected people. The only indicators that all the modernist style design did not match with Red and Blue chair were the functionality which it refers to the comfort of the users. Where all the modernist designers were emphasizing on the comfortable chair, the Red and Blue chair was not comfortable to users. This point can be one of the significant reasons that 'De Stijl' styles has limited and stopped to develop while the modernist movement did not stop in one station and continued further more than 'De Stijl' style. The forthcoming study suggests an examination of how De Stijl ideas impact the modernist movement by analyzing cases where these concepts were either fully adopted, modified, or dismissed by designers. This will offer a thorough comprehension of the developing link between the two styles and enhance the theoretical framework of the study.

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