FORM GIVING DESIGN EXPLORATION INSPIRED BY The 1980s MEMPHIS DESIGN WITH MORPHOLOGICAL CHART ANALYSIS

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Abstract

The paper studies how morphological chart that comes from engineering method be applied in a creative design process that promotes both divergent and logical thinking. Morphological chart offers vast of possibility of design exploration that can be very useful for educating nascent designers. On the other hand, history has inspired many designers to create many new things. Memphis is postmodernism design style happened between 1981-1987 that was characterize by form follow fun paradigm by creating objects that are bizarre from common object during the time. The paper presents the findings by reviewing four morphological charts, generating 20 new ideas ranging from very similar to less similar style with Memphis. The reviews discovered three key factors affecting design divergence using the morphological chart method: level of variation, which deals how many variations the means can provide, the more variations the more novelty ideas be yielded. Level of unity means show how each element taken from the means be in harmony with each other. Level of abstraction means that the degree how far the idea from the origin inspiration. By having the three level, ideas generated from morphological chart can yield better design.

Keywords: product design, memphis design, morphological chart.

Abstrak

Paper ini mempelajari bagaimana chart morfologi yang berasal dari ilmu teknik diterapkan dalam proses desain kreatif yang memungkinkan pemikiran divergen dan logis digunakan bersama-sama. Chart morfologi menawarkan banyak kemungkinan eksplorasi desain yang bisa sangat berguna untuk mendidik mahasiswa desain. Di sisi lain, sejarah telah menginspirasi banyak desainer untuk menciptakan banyak hal baru. Memphis adalah gaya desain postmodernisme yang terjadi antara 1981-1987 yang dicirikan dengan bentuk mengikuti paradigma "form follow fun" dengan menciptakan objek yang aneh dari objek umum di era 1980an. Paper ini menyajikan temuan dengan meninjau empat chart morfologi yang menghasilkan 20 ide baru mulai dari yang sangat mirip dengan gaya Memphis hingga yang berbeda dengan Memphis. Hasil studi menemukan tiga faktor utama yang mempengaruhi divergensi desain menggunakan metode chart morfologi: tingkat variasi, seberapa banyak variasi elemen ide maka ide yang dihasilkan akan semakin baru. Tingkat kesatuan berarti menunjukkan bagaimana setiap elemen yang diambil selaras satu sama lain. Tingkat abstraksi berarti seberapa jauh ide dari inspirasi asal. Dengan memiliki tiga tingkat ini, ide yang dihasilkan dari chart morfologi akan semakin membaik.

Kata kunci: desain produk, gaya memphis, chart morfologi

Introduction

In a marketing survey conducted by Bruce and Whitehead in 1988 cited in Bloch (2013), 60% respondents recognized the design as the most important for new product development. Design is the first window for the consumer to interact with certain products or services. Therefore, a designer always tries to find a unique angle to bring novelties ideas that can provide competitiveness in the market by bringing different aspects for example local culture or history as inspiration in the design process.

Cagan (1980) said that understand the present, we must know the past. This statement carried deep meaning; we cannot create something by not learning the past. By not understanding the past, we will keep repeating the same mistakes that hinder progress. Hence, history has always been a constant inspiration for the designer in various field. For example, a successful designer who is inspired by history is Vivianne Westwood encouraged by the 1970s punk subculture and create a fashion collection, that made met museum gave her the title of mother of punk ("Vivienne Westwood (born 1941) and the Postmodern Legacy of Punk Style | Essay | The Metropolitan Museum of Art | Heilbrunn Timeline of Art History," n.d.)



Figure 1. Punk Vivienne Westwood Collection Source: https://www.metmuseum.org/toah/hd/vivw/hd_vivw.htm

History has inspired designer beyond form, formafantasma an Italian design studio, explore the designer's local heritage and inspired by ancient Sicilian Italy baking technique called Salemi, in which flour-based material is moulded into architectural ornamentation. This baking technique inspired designers to make an edible home decor collection title baked in 2009. This new approach brings innovation and competitiveness to the saturated home decor market.



Figure 2. Bake Collection Source: https://www.dezeen.com/2009/10/21/baked-by-formafantasma/

From the two example, it is concluded that history has inspired designers from form to content. Using history as inspiration has been proven can bring innovativeness in the design process. Therefore, it is a good exercise for future designer to learn how to design inspired by history.

History has been a major subject for product design students in which they can learn about various historic design style that came about as industrial revolution counteraction started from Arts And Crafts Movement, Art Nouveau, Art Deco, Streamline, Bauhaus, De Stijl And Postmodernism Design Movement Memphis. This paper is an analysis of student's design history projects to create a design that is inspired by Memphis Design.

Although it was a short-lived design movement as it only lasted for 7 years. Memphis design was revived again lately in furniture and interior design landscape. Some examples of recent works that were inspired by Memphis design



Figure 3. Memphis Furniture and Interior Trend Source: pinterest

Good design always comes from a good structured methodological process. One of commonly used design method to generate ideas is a morphological chart. The structured process can help a nascent designer to generate ideas in a structured and objective manner. This paper presents the findings of a morphological chart study. The method is implemented for a short-term educational project on history of product design's project

Literature

Derived from morphology means learning about form or structure. Morphological chart originated from engineering discipline. A morphological chart is "a systematic approach to analyse the structure or form of an idea, device, product, system or process to generate ideas in a structured and systematic way" (Innovative et al., 2017). The morphological chart is part of idea generation tools that are both intuitive or logical. The tool promotes both creative divergent thinking and logical. (Shah, 1998 cited in Smith, Troy, & Summers, 2006)

Developed by Fritz Zwiky from the General Morphological Analysis (GMA) to study non-quantifiable problems by breaking down the problem into components (problem decomposition), it generates solutions by selecting and combining ideas. The benefit of using this chart by allowing an unexpected matching of different means to be considered (Börekçi, 2018)

The tool enable designer to examine all possible combinations of all the variables in a systematic way. The steps to do morphological chart:

- 1. Identify the components that will give solution to the problem
- 2. List several feasible solutions in each component.
- 3. Make the morphological chart matrix
- 4. Combine each row and column and generate feasible solutions.

An example of morphological chart

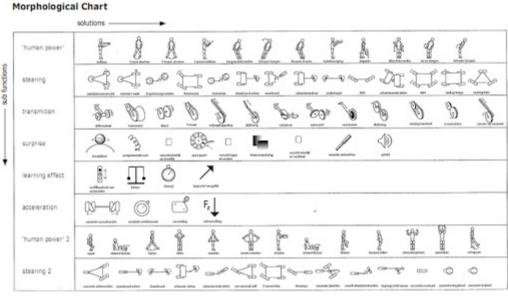


Figure 4. Morphological Chart

Source: http://wikid.io.tudelft.nl/WikID/index.php/Morphological_chart

The morphological chart is commonly used in an engineering major and rarely in the design process. The novelty of this research is to use this tool in design process that used historic design style as inspiration. Troy and Summers (2016) suggested that to generate better ideas morphological chart should have more means (the columns) than functions (the row). So, the designer should have the ability to gather means for each parameter of functions.

On the other hand, for the students to understand the context of the historic design style. They made a form, context and content analysis prior to idea generation process. Form describes all the design elements of the design style from shapes, colour, pattern, texture, material. The context describes the politic, economic, social and technological context that influenced the design style. Finally, content is the relation between form and context. For example: how technology enables designer at the time to create certain form and shapes with certain material.

Research Method

The research was conducted in a structured and systematic way as follows

	ANALYZING DESIGN STYLE		IDEA GENERATION	IDEA SELECTION
01. CONTEXT ANALYSIS Politic Economy Social Technology	02. FORM ANALYSIS Form Shapes Color Material Texture Surface Finishing	03. CONTENT ANALYSIS How context influence form	04. Morphological Chart Defining functions Generate means for each functions Combine means and create design ideas	05. Select best ideas that well represent the content of design style

Research instrument

Components	Memphis Idea	Personal Preference	Memphis Idea	Personal Preference
	Means 1	Means 2	Means 3	Means 4
	Means 5	Means 6	Means 7	Means8
	Means 9	Means 10	Means 11	Means 12
	Means 13	Means 14	Means 15	Means 16
Idea 1	Idea 2	Idea 3	Idea 4	

Figure 5. Research Morphological Chart Source: Researchers' data

The row is the means and the coloum is the components. From the morphological chart four students generate five design ideas with a balance use of each mean. The table can generate 4^16 = different mean combinations. For example, two ideas from Memphis and two ideas from personal preference.

Result and Discussion

Memphis is a design style that originated in Italy between 1981 and 1987 founded by Ettore Sottsas and there were 22 designer and architects as members. The Memphis name itself has an unusual origin. Memphis came from the line of Bob Dylan's song "stuck in mobile with the Memphis Blues Again" that was played repeatedly during the first Memphis group meeting.

The Memphis design was influenced by the previous Radical design, design style that flourished in Italy in the late 1960s. The radical design emerged as a result of the desire of designers and architects to be free from the means of design are considered conventional At that time designers and architects began to question the potential of design when it was linked to the articulation of the ideological, social and environmental problems of cultural consumerism at that time. As a result, Italian designers and architects experimented with materials, as well as new forms that were suppressed at that time, which were bold, strange, and unfit to taste the market. Radical design has been developed mainly in Florence, Turin, Milan, Padua and Naples. Superstudio and Archizoom were two design studios that became radical design icons.

The Memphis designers were fed up with modernism and its dominating minimalism in the previous decade. Therefore, the Memphis group tried a design approach characterized by creativity and humor to liberate the shape of a product from its function. The Memphis design style paradigm' form follows fun' so that the Memphis group designers' approaches in designing products were fresh, unusual, or more eccentric and bizarre. This design style takes the reference from the Art Deco geometric figures, the colors of Pop Art, the aesthetics of the Kitsch style in the 1950, the Aztec art, and also the totem. The Memphis design style is condensed with the use of bright color combinations and pastel colors, geometric shapes, line elements. The aesthetics of ' bad taste ' and shape and material applications that are not commonly used in a product. The application of laminate and terrazzo material in the product characterizes Memphis design objects. Memphis also famous for its patterns such as squiggles pattern, also known as Bacterio print, by Ettore Sottsass.

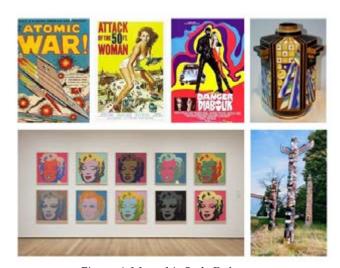


Figure 6. Memphis Style Reference Source: https://www.veniceclayartists.com/charles-catteau, https://www.moma.org/collection/works/61239?installation_image_index=2, https://www.onlinedesignteacher.com/2016/05/graphic-design-styles.html

Memphis Style Reference

Context Analysis

Political background: The Christian Democratic Party (Partito della Democrazia Cristiana, commonly known as DC) and the Italian Communist Party (Partito Comunista Italiano, also known as PCI) were two dominant parties in Italy between the end of the Second World War and the 1990s.

Economical background: Since the end of the Second World War, Italy experienced a dynamic economic advance with the transformation of major agricultural sectors into industrial sectors. In the years 1950-1963, Italy's economic development was the fastest in Europe, but it declined in the 1970's.

Social background: The development of the tourism sector and the social outlook that those who can go to other countries and learn about the culture of the country are considered to have more knowledge and insight. A designer who draws his inspiration from outside culture is considered trendier and more modern.

Technological background: Development of industrial engineering in Italy, for example in the manufacture of arms, textile machinery, machinery and household, automotive and other means of transport. Designers can also quickly and on a large scale realize their ideas. Plastic laminate technology is also growing rapidly.

Form Analysis	Content Analysis
Forms: Geometric, non-organic	Mass production
Shape: Following what is considered a fun and unusual	Radical and designing in an unusual way at that time
Material: material combination that has not been used like laminate, terrazzo, with metal, wood, glass	Form follows fun, freeing the form of functions

Proportions: Generally asymmetry, there is a symmetrical	Bad taste aesthetic
Textures: generally not textured, but some provide a perforated surface from the terrazzo material	Anti-Minimalism and modernism, embrace postmodernism
Color: Bright color combination with pastel color	Mixing contemporary pop culture with past cultures
Pattern: Squiggling pattern (for example the Bacterio print by Ettore Sottsass) although not always worn	

Then three key Memphis design objects was elaborated







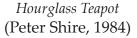
German Silver Vase, 1985, Ettore Sottsas

Carlton Room Divider, 1981, Ettore Sottsas

Hollywood Table, 1983, Peter Shire

The German Silver Vase designed by Ettore Sottass in 1985 is a unique vase during the time because it used Silver material and carved by hand to produce a Bacterio pattern, a typical Memphis pattern. This pattern was also used in the Carlton Room Divider, the bookshelf inspired by totem designed also by Ettore Sottass in 1981 which attracted the most attention in the early development of the Memphis group. Hollywood Table is the work of Peter Shire in 1983 representing his birthplace, Los Angeles, with unusual geometric shape applications applied to the table. These three works have been selected for the Represents the Memphis design style as the three are iconic masterpieces of the Memphis era, showing geometric shapes, featuring a combination of color use bold and pastel colours, showing the use of wood and metal laminate materials, applying the typical Memphis pattern of Bacterio, and showing the form follows a fun aesthetics paradigm.







First Chair (Michele De Lucchi, 1983)



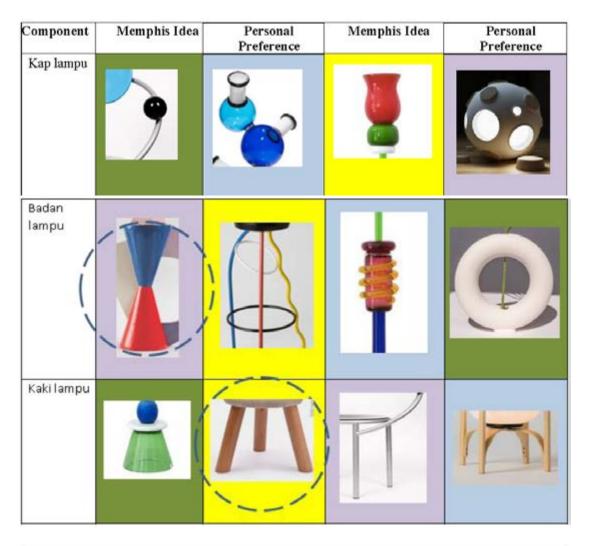
Ananke Vase (Ettore Sottsass, 1986)

These 3 products were selected to represent the Memphis style as they were some of the products made by Peter Shire, Michele De Lucchi and Ettore Sotsass, the most influential and important members of the Memphis Group. They were influential people who created, represented, and advocated Memphis to the world. These selected products represent the idea of a Memphis design style that would want to keep away from the idea of its functionality. This paper hourglass Teapot Peter Shire has a very different shape from the usual teapots, the First Chair by Michele De Lucchi has a unique armrest due to the presence of a ball so that the chair looks uncomfortable to be seated, while Ananke Vase looks too clumsy and tall to be a flower vase.

As mentioned in the previous section, to generate good ideas with morphological chart more means is better than having more functions. Therefore, aside from taking inspiration from Memphis style, the students may add objects from their personal preference. The study compares four students work two with very different style with Memphis and two with similar style with Memphis. Therefore, there are four different matrixes of morphological charts. The aim is to make comparison out of them.

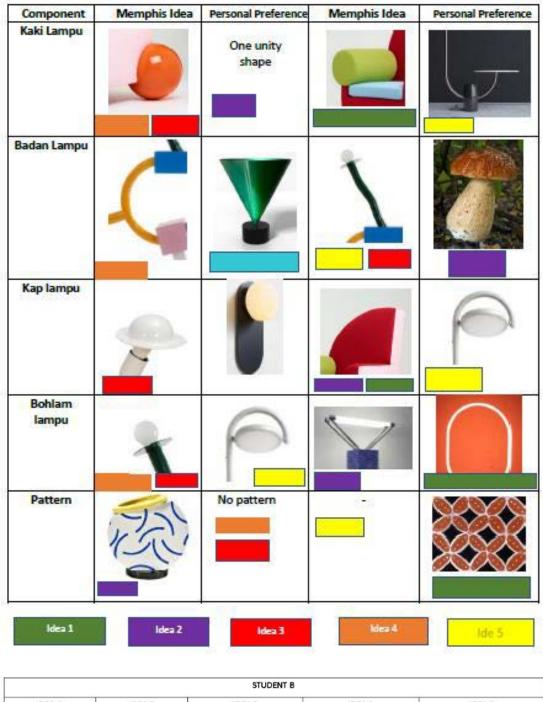
Design projects similar to Memphis

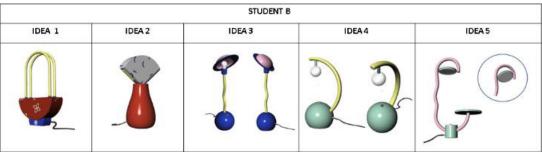
Student A has similar style preference with Memphis design. She prefers organic shape that tends to have curved lines with bright colors such as pastel colors. She likes using wood materials, elongated high proportions with textures and smooth, sleek surfaces.



		STUDENT A		
IDEA 1	IDEA 2	IDEA 3	IDEA 4	IDEA 5
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Source: Clemencia Gloriana Sharon
Student B loves minimalist and elegant product design. She prefers products with stainless steel material with neutral colour such as white, black, or other dark colour because the color can give a deeper elegant impression.

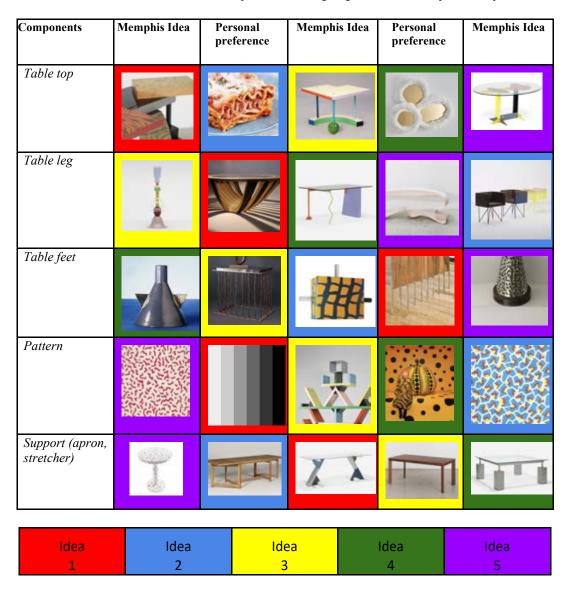




Source: Agnes Veronica

Less-similar design projects with Memphis

Student C prefers a simplistic design form, a less linear structure with few organic elements, and monochromatic or dichromatic color tone. She likes natural materials like wood and brass, with flat finishes with minimal textures. She loves repetition that is intended to achieve either symmetrical proportions or asymmetry.

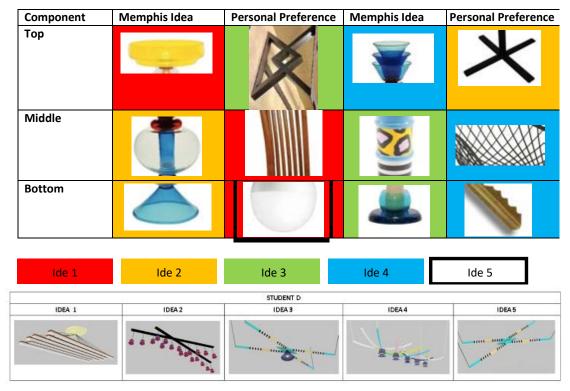




Source: Jessica Elizabeth Kwee

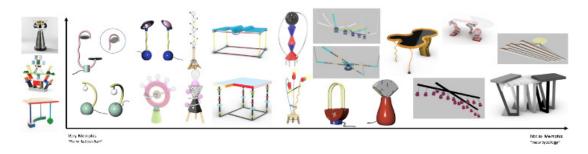
Student D

His preference is repetitive geometric shapes with dark color, wood material, and sleek surface.



Source: Andre

From all twenty designs arranged in graph and can be seen design that are very memphis and not very memphis. From this chart, it can be concluded and morphological chart can help nascent designer to generate many ideas ranging from very similar to the design style to not very similar. By combining different means students can think divergently.



The chart is made based on memphis form analysis design that have form follow fun shape, bright and pastel color combination, and squiggling pattern.

Conclusion

Comparing the two morphological charts that generate similar and dissimilar to Memphis design style several recommendations can be drawn.

1. Level of variations

Students who bring ideas outside the product category their design. They produce more diverse ideas compare to students who put the same type of items in their morphological table, e.g. student C put lasagna as one of the ideas. Lasagna is very far from table, the object she designs. The pattern can be found outside the four students listed here, as the research instrument was also carried out by other 29 design students who listed on the course.

2. Level of unity

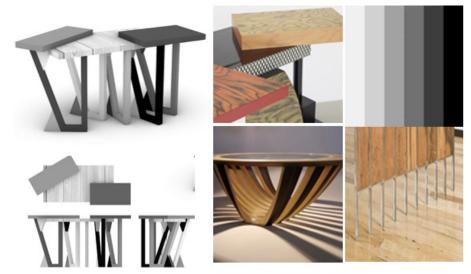
In form giving process several students find difficulties in combining different elements from the morphological chart and making all the elements as one unity. Several designs can be seen are very fragmented. For example, the design below, the design is still very similar to the inspiration and lack of unity between each means.



Means from morphological chart

3. Level of abstration

Abstraction mindset is also needed in the process, as many of design ideas still very similar to the inspiration. By combining different means, morphological chart aims to spark ideas, not completely taking the form and apply it on different context. The form still needs to be explored.



Means from morphological chart

Previous study suggested that experience matter in using morphological chart, the more experience you have, the more balance ideas (Troy and Summer, 2016). Therefore, the morphological chart must be applied in many design exercises for the student to be more affluent in using it.

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