

# The Camouflage Design in Human Products and Its Philosophy

Prof Dr., Tarek Ismail Mohamed

Professor of Product Design, Visual Communication by Computer,  
College of Information, Mass Communication and Humanities  
Ajman University of Science & Technology

United Arab Emirates.

tarekabelatif182@hotmail.com

**Key words:** What is Camouflage, The beautiful law of nature, Geometric Shapes in contrasting colors, complex pattern, Modernist Art in Camouflage, The object perception and recognition,

**Abstract.** Dazzle camouflage is a complex pattern of geometric shapes in contrasting colors that by mixing and intersecting lines will disrupt the object perception and recognition.

The first use of Dazzle was introduced due to the inability to develop an effective way to conceal ships by the allied navies on the First World War. The goal was actually not to conceal, but to make it difficult to estimate the class, bearing and speed of a ship by the German U-boats.

Nowadays different forms of Camouflage are applied in products design and its visualization.

This theme of paper will discuss the different aspects of Camouflage design and the human culture aspects which provide a powerful tool for designers to express themselves through the design process, and interact with all users across the world, to find communities that value their contributions.

## 1. Introduction

*Camouflage* is the use of any combination of materials, coloration or illumination for concealment, in nature life it is making animals or objects hard to be seen, or by disguising them as something else. As shown in ( fig. 1) Peacock Flounder shows its ability to change its pattern and colors to match its environment.

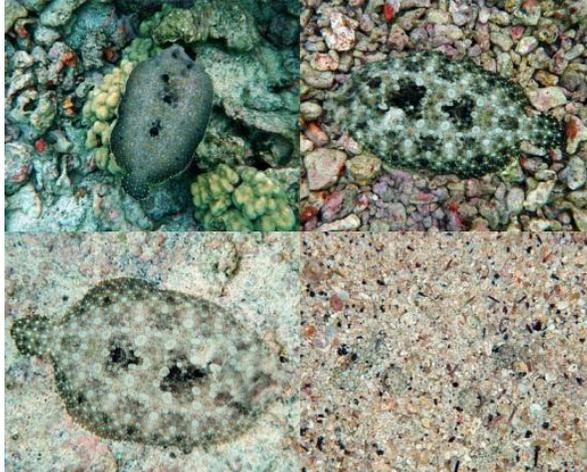


Fig 1. is shown Peacock Flounder and its ability to change pattern and colors to match its environment

A third approach, motion dazzle, confuses the observer with a conspicuous pattern, making the object visible but momentarily harder to locate. The majority of camouflage methods aim for crypsis, often through a general resemblance to the background, high contrast disruptive coloration, eliminating shadow, and countershading. In the open ocean, where there is no background, the principal methods of camouflage are transparency, silvering, and countershading, while the ability to produce light is among other things used for counter-illumination on the undersides of cephalopods such as squid. Some animals, such as chameleons and octopuses, are capable of actively changing their skin pattern and colors; they often use this ability both for camouflage and for signaling[4].

## 2. Camouflage methods in the living organism

There are Different camouflage methods employed by terrestrial, aerial, and aquatic animals, and in military usage, this includes the use of high-contrast disruptive patterns as used on military uniforms, but anything that delays recognition can be used as camouflage. Camouflage involves deception, whether by looking like the background or by resembling something else, which may be plainly visible to observers[4].

We can summarize the different methods of camouflage as follows,

### 2.1. Mimesis:

- resembling something not of interest to the observer.
- Color matching and having similar colors to the environment.

### 2.2. Disruptive coloration:

- having high contrast coloration that breaks up outlines, so observers fail to recognize the object.
- Seasonal variation and having coloration that varies with season, usually summer to winter

### **2.3. Side or Above/below countershading:**

- having graded toning from dark above to light below, so as to cancel out the apparent effect of self-shadowing when viewed from the side.
- Above/below countershading and having different colors or patterns above and below, to camouflage the upper side for observers from above, and the underside for observers from below

### **2.4. Counter illumination:**

- generating light to raise the brightness of an object to match a brighter background, as of a marine animal's underside against the sea surface.
- Self-decoration by covering oneself in materials from the environment.

### **2.5. Irregular outline:**

Having an broken or complex outline (that may help delay recognition by an observer)

### **2.6. Feature disruption:**

Having high contrast markings that specifically break up or conceal distinctive features of the object.

### **2.7. Distraction:**

Having coloration that distracts an observer's attention away from a feature of the object (such as the head or eye)

### **2.8. Active camouflage:**

Changing the coloration rapidly enough to maintain resemblance to the current background while moving.

### **2.9. Motion camouflage:**

Following a track such that the object remains between a starting point and the target (e.g. prey) at all times, rather than going straight for the target.

## **3. Camouflage in War**

*Military camouflage* was spurred by the increasing range and accuracy of firearms in the 19th century. In particular the replacement of the inaccurate musket with the rifle made personal

concealment in battle a survival skill. In the 20th century, military camouflage developed rapidly, especially during the First World War[3]. On land, artists such as André Mare designed camouflage schemes and observation posts disguised as trees. At sea, warships and troop carriers were painted in dazzle patterns that were highly visible, but designed to confuse enemy gunners as to the target's speed, range, and heading. as is shown in (fig 2.3) . During and after the Second World War, a variety of camouflage schemes were used for aircraft and for ground vehicles in different theatres of war. The use of radar in the Cold War period has largely made camouflage for fixed-wing military aircraft obsolete.

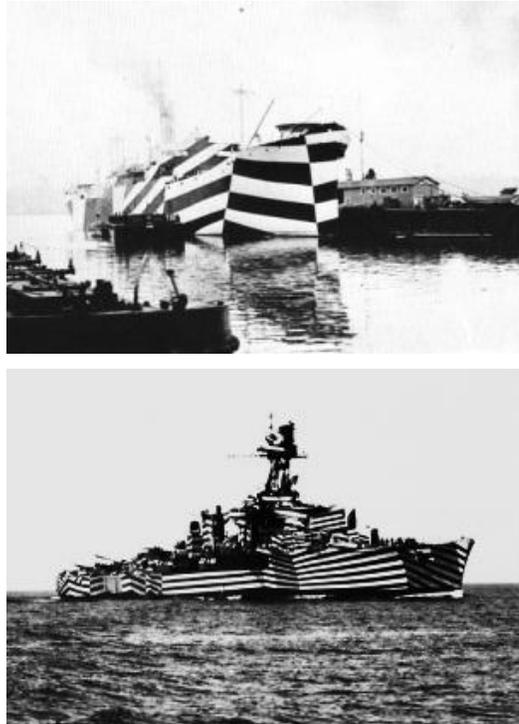


Fig 2. is shown Warships disguised between World War I and II



Fig 3. is shown Military bombers transportation and its Camouflage

#### 4. Different Trends in human Products Camouflage

There are different techniques in products camouflage, It can be resulted from the previous study, and mentioned as follow:

##### 4.1. Artistic Patterns

Patterns derived from military camouflage are frequently used in fashion clothing, exploiting their strong designs and sometimes their symbolism. Camouflage themes recur in modern art, and both figuratively and literally in science fiction and works of literature[5], figure is shown Patterns Camouflage in in two and three dimensions as is shown in (fig 4).

Fig 4. is shown the camouflage patter in two and three dimensions:



##### 4.2. Form does not follow Function

The recognized base in product design is (form follow function), it was created by Walter Gropius the Founder of Bauhaus School in Germany 1919-1932.

In the camouflage product design the golden base is (Form does not follow Function), because it gives different forms for not related functions, as shown in (fig5), the computer USB Port and the water melon[1].

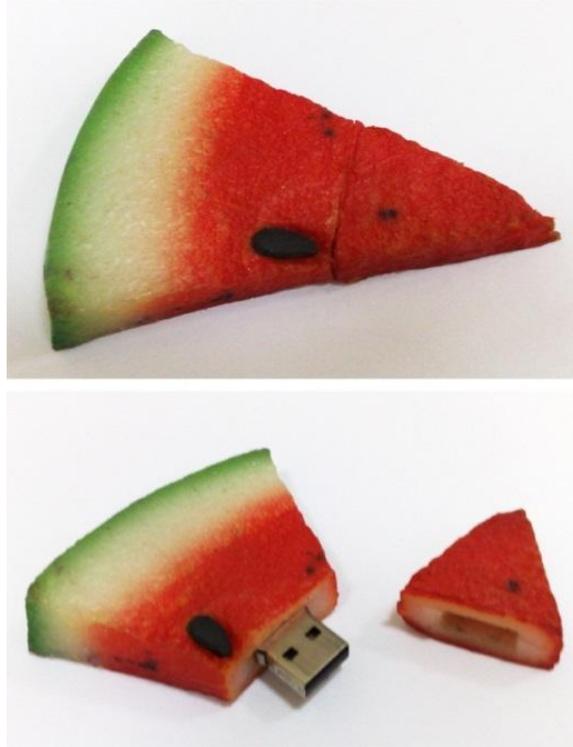


fig 5. is shown the computer USB Port looks like the water melon

#### 4.3.Funny or Decorative Shapes

Some objects or projects seem to be aggressive or ugly for people eyes especially in the open areas, it need to be more attractive or acceptable, for example cell telephone towers seem less obtrusive as is shown in (fig 6) .



Fig 6. is shown cell telephone tower (resembles A human Face) is less obtrusive by camouflage using

#### 4.4. Contrasting shapes and functions

In some cases camouflage comes from A contrasting between shapes and functions, (fig.7) is shown Fire extinguisher works a lighter. In this case camouflage function attract the users [2].



Fig.7. is shown Fire extinguisher works a lighter

#### 5. Questionnaire about camouflage philosophy in the human beings

I have made A questionnaire and asked different people in many ages, about their desire to use camouflage in their daily life, and how they deal with the camouflaged products, the questions were as follow :-

- how old are you ?
- what is your job ?
- do you make camouflage?
- why do you make camouflage?
- what can camouflage add for you?
- do you find camouflage a suitable method to get your targets?
- what do you feel when you are being camouflaged?
- what is your preferred method of camouflage?
- when do you resort to camouflage?

- do you find camouflage something funny or serious ?
- do the people accept your camouflage ?
- what is the people reaction against your camouflage ?
- do you make camouflage alone or with others in group ?
- do you prefer camouflaged products to use ?
- do you find the camouflaged products a fashionable or real products ?
- What do the camouflaged products add to your character ?
- can you use camouflaged products in any times or not ?

## 6. Summary

From the previous study we conclude that:

- The human products are a good field for camouflage ideas.
- A camouflage is a part of our daily life.
- A camouflage has its social aspects, everyone wants to be non-seen from the others.
- It is a basic component of the human being character.
- We expect more different ways of camouflage in the future.

## 7. Acknowledgement

This research was financially supported by Ajman University of Science, College of Information, Mass Communication and Humanities, United Arab Emirates.

## References

- [1] Henrietta Goodden, *Camouflage and Art: Design for Deception in World War 2*, Royal College of Art, London, United Kingdom, 2007.
- [2] Robin Landa, *Graphic Design*, Robert Busch School Of Design, New Jersey, USA, 2011.
- [3] Roy R. Behrens, *False Colors: Art, Design and Modern Camouflage*, New York, US, 2002.
- [4] Tim Newark, *Camouflage*, Thames & Hudson Publisher, USA, 2007.
- [5] Brandon, *Art Direction / Design*, Industry Design Publisher, San Francisco, USA, 2012.