

Semiotic Approach in Lighting Product Design

DR. ÖĞR.ÜYESİ EDA ÇORBACIOĞLU*

Abstract

Today, in addition to the basic functions of saving from darkness, it is also important for the lighting products to carry aesthetic values. In the designs, it is aimed to show the spaces different than they are, even to highlight them, to present successful, creative, artistic images and to create visual effects.

Lighting products are design products that contain aesthetic elements in terms of being selectable and attracting attention. Industrial products carry meaning in respect to their cultural and communal reality. Therefore, these products are means of communication, and signs are one of the important tools for establishing this communication. In terms of designers, it is important to use the signs conveniently to convey the product to the target group.

The aim of this study is to reveal how the semiotic approach can contribute to the design process. It is foreseen that the designs that are created by the designers with the inspiration of semiotic approach can easily find response in terms of marketability and perceptibility in the target audience.

In the study, as a method some home lighting products were selected from various sources and the examples were analyzed by using Peirce's triple semiotic classification of icon, index, and symbol. As a result of this semiotic analysis, it has been determined that using the semiotic elements in lighting product design is a frequently used method in design to make the products to be adopted by the target group. In the product design process, it has been seen that the semiotic elements guide the designers with deliberative placements, give them a creative perspective and inspire them.

Keywords: design, semiotic, lighting, product, icon, index, symbol

AYDINLATMA ÜRÜN TASARIMINDA GÖSTERGEBİLİMSEL YAKLAŞIM

Öz

Günümüzde aydınlatma ürünlerinin temel işlevleri olan karanlıktan kurtarma işlevlerinin yanı sıra estetik değerler taşımaya da önem verilmiştir. Tasarımlarda, mekanları olduğundan farklı göstermek hatta öne çıkarmak, başarılı, yaratıcı, sanatsal görüntüler sunmak, görsel etkiler yaratmak hedeflenmiştir.

Aydınlatma ürünleri, seçilebilir ve dikkat çekici olması açısından estetik unsurlar içeren tasarım ürünleridir. Endüstriyel ürünler kültürel ve toplumsal gerçeklikleri nedeniyle anlam taşıyıcıdır. Dolayısıyla ürünler bir iletişim aracıdır ve göstergeler de bu iletişimi kurmanın

* İzmir University of Democracy, Graphic Design Department, eda.corbacioglu@idu.edu.tr, orcid: 0000-0002-2272-0813
Gönderim tarihi: 01.10.2022 Kabul tarihi: 23.10.2022

önemli araçlarından biridir. Tasarımcıların ürünün hedef kitleye ulaştırılması için uygun göstergeleri kullanması önemlidir.

Bu çalışmanın amacı göstergebilimsel yaklaşımın tasarım sürecine nasıl katkı sağlayabileceğini ortaya koymaktır. Tasarımcıların göstergebilimsel yaklaşımdan esinlenerek oluşturdukları tasarımların, hedef kitlede pazarlanabilirlik ve algılanabilirlik açısından kolaylıkla karşılık bulabileceği öngörülmektedir.

Çalışmada yöntem olarak çeşitli kaynaklardan ev aydınlatma ürün örnekleri seçilmiş, örnekler, Peirce'in görüntüsel gösterge, belirti ve simgeden oluşan üçlü göstergebilim sınıflandırmasından yararlanılarak çözümlenmiştir. Bu göstergebilimsel çözümlenmeler sonucunda aydınlatma ürün tasarımında kullanılan göstergebilimsel öğelerin, ürünlerin hedef kitle tarafından benimsenmesi için tasarımda sıkça başvurulan bir yöntem olduğu saptanmıştır. Ürün tasarım sürecinde göstergebilimsel öğelerin bilinçli yerleştirmelerle tasarımcılara yol gösterdiği, yaratıcı bakış açısı kazandırdığı ve ilham verdiği görülmüştür.

Anahtar sözcükler: tasarım, göstergebilim, aydınlatma, ürün, görüntüsel gösterge, belirti, simge

INTRODUCTION

Natural lighting is the main energy source defined as lighting that provides visual comfort by using daylight from the sun. Artificial lighting is defined as the lighting that provides visual comfort by using artificial light sources.

“All the spectral and photometric properties of illuminating light; It is a technique that deals with all the properties of objects related to reflecting, absorbing, or transmitting light (colored-colorless, dark-light, glossy-matte) and the light and color vision properties of the human eye as a whole and determining the ways to use them according to the visual perception needs. The lighting technique thus provides the most suitable visual conditions and makes it possible to do this with the least expenditure” (Sektörüm Dergisi,2020).

According to International Commission on Illumination, which was founded in 1913 and which is a fully authorized organization in its field, “lighting is to apply light in order to ensure that the environment and objects can be seen properly” (Şerefhanoglu, 2001, p. 11). Various devices based on the technology of the day, have been developed to artificially illuminate areas that do not have enough sunlight or when darkness falls in those areas. When such devices were put into the service of humanity, they also became a sign of the advancement of a civilization.

The need to illuminate the places where people live has had a long history since the formation of humanity. The process that started with the invention of fire reached the top level with the discovery of electricity. The discovery of fire is considered the beginning of artificial lighting. Difficulty of carrying fire and the dangerous nature of it made it necessary to invent new lighting appliances. Various elements were used in the artificial lighting process.

“In Homeric times, rooms were illuminated by receptacles on tall stakes fed with bits of dry wood. After hand-held torches, lighting appliances continued with oil lamps, lanterns, candles, and gas lamps. The introduction of electricity in the 19th century was

an important step in lighting. Electric came into daily use in 1878, and the first electric lamp was manufactured in 1881. The first electric power plant was commissioned in London in 1882. In 1907, incandescent lamps with tungsten wires were produced, and an important step was made with the production of high-pressure mercury lamps in 1935. Fluorescent lamps began to be used in 1939. Since 1977, important technological steps have been made" (Karahüseyin, 2009, p. 11).

Apart from the practical, convenient, useful product that not only performs the function, but also offers the creation of "designer-brands". Designer-brands products serve as the decoration of the home as well. Thus, demand for more expensive products increases day by day.

"In the process of product design, the technique of metaphor is also frequently used to give product appearances a character of communicative symbols. In the mid-80s, industrial design evolved to emphasize product emotional expressions and humanistic qualities. Industrial design was a design aesthetic infused with historical and cultural thought, injecting traditional art and design methods into the design of new products to express accommodation for traditional culture" (Chiu et al., 2013).

Over time, form function has begun to disappear. The basic criterion in the design and use of the product in the 80's has become the meaning of that product rather than the uses loaded on the product. These concepts are important for designers rather than users. It has gained importance in the formation of designs that have little or no relation to use but are realized by meanings and shape according to the creativity and perspective of the designers.

Today, lighting products have attached importance to carrying aesthetic values in addition to the recovery functions from darkness, which are their main functions. According to Laganier & Van Der Pol, "On the lighting field, the emotional considerations have been mainly implemented by technicians or lighting designers based on their experiences and intuition lacking theoretical background that includes the talks with artists and technicians on lighting design" (cited by, Calvillo & Falcón, 2016, p. 1). Depending on the technological developments, their sizes and shapes have changed and become an important part of decoration. Designs hanging from the ceiling, rising from the floor, standing on the furniture, mounted on the wall appeared. It is now clear that they should be considered as design products. In addition to getting rid of the dark by burning light, the lighting systems that are made to make the space and environmental elements with different functions appear natural as they are, are called decorative lighting. It is aimed to show the places different than they are and even to be remarkable, to create more aesthetic effects.

1. LITERATURE REVIEW

It has been understood that there is a strong relationship between light and the body of human. 18 articles from PubMed medical article database published between 2002-2012 demonstrating the results of controlled clinical trials show that a well programmed lighting has a positive effect on 24 hours' biological cycle (White et al., 2013) and clinical tests prove that properly designed lighting improves working people's stress level and satisfaction (Gray et al., 2012). It has been found that light illuminance levels, exposure times seems to improve patients' sleep (Hadi et al., 2019) and adequate lighting are helpful for people with cognitive impairment

(Karol & Smith, 2019) as well better design of lighting at home has potential to create a healing effect even not scientifically proven (DuBose et al., 2018).

Bille (2017) sees light “more than a ‘symbol’ or ‘sign’ of something else, light thus shapes a visual presence in the world that ties closely into notions of self, solitude, and comfort” and home lighting may help us creating a pleasant atmosphere which calls cheerfulness, relaxed intimacy, informality as well secureness, solidarity, community. Some research indicates that emotions are more associated with the experience of the lighting, instead of the appearance of the place. In addition to people’s cultural background intensity, color, direction, and diffusion of light have been found to produce different effects, such as fear, uncertainty, fascination, entertainment, affection, pleasant surprise, inspiration, unpleasant surprise, contempt, and disappointment (Calvillo & Falcón, 2016).

Lighting besides color is thought to have a capacity to create an effect on the environment (Duckworth & Sassin, 2017). Apart from others (Chiu et al., 2014), also examines ancient lighting with a systematic semiotic approach as well. Chen had studied stone lamp platforms that occupied an imperative position in Buddhist worship in medieval China (Chen, 2019).

Lighting in cities has critical importance from different perspectives and various design efforts and methods have been developed to incorporate the emotions of potential users into the design of lighting (Cheng et al., 2018). In addition, cultural differences and light color, light intensities have been found to influence the arousal of hotel guests (Park et al., 2010) and light configuration in mosques aims to generate an atmosphere of unity of the worshippers, where green light at homes is expected to secure from bad spirits (Bille, 2015) also cultural differences and color quality of light affects emotional states of arousal and pleasure and the shopping behavior of the people (Park & Farr, 2007) and lighting behavior and shared meaning creation might be an experimental interesting research and implementation area (Nacsá et al., 2011).

Material, color, texture, function, structure, cultural factors seem to be the major factors affecting the shape of today’s lamps as well identified that basic values seem to be humanization, artistry, fascination, and personalization (Xue & Li, 2009). Apart from lamps, the design of an illuminating textile curtain utilizes a different technology to collect and store solar energy and the solar illuminating curtain can make our daily life easier by providing increased light and visibility (Taieb et al., 2009).

Lighting design approaches have become more complex and aim to provide the right experience at the right time and right place with some technical capabilities (Pont, 2018). By the guidance of different approaches and techniques, cultural values and the essence of emotional and psychological aspects may be taken as input to the product design including lighting products (Yang & Ridder, 2018).

2. SEMIOTICS AND PRODUCT DESIGN

The twentieth century's design history generally depends on the changes in consumption habits, tastes and trends, the moral and commercial obligations of designers, technological developments, and societies. “A product is anything that can be offered to a market for attention,

acquisition, use or consumption that might satisfy a want or need. It includes physical objects, services, people, places, organizations, and ideas" (Kotler, 2000, p. 110). Every product has a cost, and each has a selling price. The price to be determined varies according to the target market, quality, and marketing strategies. Product design is a commercial activity that is created to respond to physical, social, economic, cultural, political, and technological needs, and that allows the creation of products to meet the needs of consumers, to satisfy them, and to be sold by businesses. In addition, it would not be correct to say that design is only for commercial purposes, it is a tool to convey to the target group how persuasive ideas, attitudes and values should be according to individual and social goals.

Design as a means of communication between people, develops the designer's ideas about the special intuitions of the designer's thinking, the importance of the relationship between the object (design solution), the user/consumer, the design process and society. The role of a product designer is to achieve the best in every sense and is to facilitate the life of consumers by improving the function of a product, and to make products more efficient by using the latest production and technological developments. Product designers should find the most suitable materials for the products by following the technological developments, appeal to the society to which the target audience belongs, follow the changing tastes, emotions, and trends, reflect them in their designs and create emotional appeals to the consumers for the products.

Designers should attach importance to aesthetics and ease of use as well as functional and technical features of designs. Each product contains different meanings besides its basic function and can create different emotions in users. The product design team tries to develop, find, and define meanings for the product as well as its function. Every product has a more or less meaning in the life of individuals. This meaning is sometimes taken from society or traditions, sometimes there are special meanings created by individuals, and in many cases, each product contains the meaning they aim to a certain extent within the product. Sometimes the integration of meaning and function is not very compatible. Product design studies are the work of bringing many factors together in the most ideal way.

Semiotics-specific works, objects, events, etc. are an interdisciplinary academic field that can be defined as the study of meanings, signs and symbols, focusing on the meanings that exist and/or thought to exist in entities, the transmission of meanings, the change of meanings according to the properties of entities, their natural transformation over time, the planned intervention and alteration of meanings in entities, the formation and transmission of meanings. The aim of semiotics is to reveal meaning from words, symbols, narratives to all kinds of human products.

Industrial design products communicate with the consumer through the signs that they contain. It is one of the ways in which emotions and thoughts are conveyed such as advertisements, works of art and architectural structures. Therefore, products are a means of communication, and signs are one of the important tools for establishing this communication. While Barthes (1979, p. 10) expresses the broad definition of language, he does not limit it to words, sounds and their grammatical structures. It treats products, advertisements, graphics, movies, and many other forms of communication as a form of language.

Lighting products are also one of the design products that contain aesthetic elements to be selectable and attract attention. "Industrial products are also meaning carriers because of their cultural and social realities. The product is a sign and has all the features of the signs. According to Umberto Eco every product designed is a sign" (cited by Erkman, 1987, p. 129). Semiotics can be seen at every stage from the design to the consumer stage. Semiotics plays a major role in the analysis of products. The importance of semiotics in the field of design has increased with the help of designs that are developed with technological innovations, changing marketing and consumption habits, and widespread influence of visual, written and social media.

The word "semiotics is derived from the Greek root, seme, as in semeiotikos, an interpreter of signs" (Cobley & Jansz, 2010, p. 4). Semiotics as a discipline is simply the analysis of signs or the study of the functioning of sign systems. Saussure examines the life of signs in society. "All the signs in the social field; clothes, gestures, facial expressions, body language, deaf-mute alphabet, behavior patterns, traffic signs, etc. talks about a science to examine" (Saussure, 1972, p. 33). The use of semiotics for the structuring of the main message to be conveyed during the design of the products has been discussed and analyzed in many studies. In these studies, different methods have been applied in different fields. Especially in the studies for the last ten years design and semiotics have increased exponentially.

In product design there is no place for coincidence; each morpheme is deliberately brought together by the designer. When creating a design, we refer to signs and it is important to use and place these signs conveniently in order to convey the product to the target group. Signs can be created by using the similarity relationship, existential relations, human experiences, or laws or rules. Objects created by humans and certain industrial products have certain messages and specific meanings for the society in which they are produced. "Many corporations use symbols and icons as a means of establishing some kind of "corporate identity", because it is easy to remember a symbol or icon. The design of a firm's symbols and icons— through the use of color and form, and often the appearance of specific words and/or numbers—help people have a sense of what the corporation is like" (Berger, 2004, p. 16).

If the sign used when creating a design has a similarity relationship with the product, it is an icon. Icon is a type of sign that is based on a relationship of similarity such as photography, painting, diagram, and is created by feeling or sensing production and use. In the index, production and use occur by inference, perception, or action-reaction. There is a causal or natural relationship such as smoke, signs of illness, burning smell of food, and clouds. Social convention is essential in symbols. Alphabets, flags, traffic signs can be given as examples for symbols that are learned and taught as signs.

The basis for the selection of the user is, the signification that is specific to the qualities of the product, which we call communicative functions.

"Due to the highly developed technology, the design is no longer the function and shape design of a product itself, but the design meets the demand of the overall light environment by reaching the coordination between the environment and the design. Therefore, the different demands for the light's form in different situations should be

considered to build a suitable light environment to meet people's demands for modern lighting design" (Uxe & Li, 2009).

In order to show the signification in any sign; the connection between signifier and signified must be established. The interpreter tries to understand what the form means by the signs of the product. In industrial design, semiotics also tries to establish cultural ties as a result of the interpretation of functions in relation to communication.

Form is a tool that refers to some objects. Products can be in a concise and modest form, embedded in human sensitivity and feelings, to display the beauty, the kindness and warmth of life. "The design of lighting form's dynamic and static forms displays itself in two ways. Different forms will bring different feelings to people, influencing viewers' inner emotions directly. The meanings of different forms with dynamic perception cover a broad domain, including the senses of moving forward, going back, speed, [...] flying and so on" (Uxe & Li, 2009). The form refers to the object in different ways, as well as to different types of the object. This relationship can be one of the sign types; icon, index, symbol (Vihma, 1990, p. 202). Peirce examines signs in triadic models according to various characteristics. "The most basic and most referenced signs in Peirce's classification are the classification which they divide into three as icon, index, symbols according to their presence, similarity or countermeasures in terms of their objects" (Jolly, 2008, p. 28).

Peirce's triple classification can be used in product design. In this study, we will examine Peirce's triadic semiotic classification in detail and illustrate how this triadic classification is used in design of lighting products

2.1. Use Of Icon in The Lighting Products

In the icon, there is a direct relationship of representation and similarity between the object and its representative. "Icon is a mode in which the signifier is perceived as resembling or imitating the signified being similar in possessing some of its qualities such as portrait, a cartoon, a scale-model, onomatopoeia, metaphors, imitative gestures" (Chandler, 2007, p. 37). The common feature of these is that they have a similarity relationship with the object in terms of some properties.

Like other icon models we mentioned earlier, metaphor is one of the icon models. The use of metaphors helps to make objects abstract in our brains and it is used to give product appearances a character of communicative symbols. It provides faster and easier access to the receiver and prevents cliché into use. "Metaphors help designers to understand unfamiliar design problems by juxtaposing them with known situations" (Casakin, 2007, p. 23). Metaphors are used to understand an abstract proposition or concept. "Human beings can truly understand abstract concepts and prepositions only by assimilating them metaphorically, or by association, with concrete experiences such as emotional, physical, sensory-motor, spatial, social, etc. notions" (Levy, 1991, p. 97). The concept structures what we perceive and our relationships with others. Our conceptual system in which we think, and act is metaphorical (Lakoff & Johnson, 1980, p. 3). Using iconic metaphors in product design serves to establish an emotional, physical connection between the

product and the consumer. The product designed using a similarity relationship, can be more easily reciprocated at the consumer.

In the chandelier example, in terms of form, color and proportion, the reference includes many features. The lamp designed (Figure 1) shows the similarity with the spider. There is a representation of the relationship between the chandelier and spider. They represent each other through similarity. Imitating the spider creates a friendly and emotional feeling for the people.



Figure 1. Spider chandelier
Source: URL-1



Figure 2. Radioactive cloud and nuclear explosion bomb lamp
Source: URL-2

The lamp in the example (Figure 2) resembles a mushroom cloud formed by radioactive evaporation after it was thrown on Hiroshima, one of the greatest tragedies in human history. The radioactive cloud formed by the effect of the bomb dropped on Hiroshima on 6 August 1945 rising almost 10 km from the ground. The resulting image is exactly similar to the lamp design. While the lighting product is similar to the cloud created by the nuclear bomb as an icon, we can also talk about the very strong light created by this bomb as an index. One of the immediate effects of nuclear weapons in the first minute is very strong light. "In brightness, a nuclear denotation is comparable to the sun" (Butler, 1962). The testimonies of survivors of Hiroshima also revealed that the strong light was first seen and lit up the sky like the sun. A nuclear explosion can be predicted even on a bright sunny day, as the light, also called nuclear lightning, is even brighter than the sun. Therefore, this inference formed by the cause-and-effect relationship in the index inspired the design.

Mason Parker's design takes its colorful octopus chandelier (Figure 3) form from its resemblance to an octopus. Nature is a limitless source of inspiration for designers. Designers and scientists have imitated or been inspired by nature for centuries. Biomimicry, which comes from the Latin word bio mimesis, is to imitate nature directly or to design inspired by nature. The solutions produced by nature have also been a unique guide for designers. Examples shown were created by imitation of nature, namely biomimicry.



Figure 1. Colorful octopus chandelier
Source: URL-3

2.2. Use Of Index in Lighting Products

It is a sign with a direct existential connection with its object. “Index is a mode in which the signifier is not arbitrary but is directly connected in some way (physically or causally) to the signified (regardless of intention)” (Chandler, 2007, p. 37).

The example shows a tooth-shaped night lamp (Figure 4) that contains both an icon and an index. When viewed as a form, it provides the appearance of teeth with all its formal features. The use of the tooth figure in the night lamp points to the tooth fairy as an index (Çorbacıoğlu, 2022, p. 40). The tooth fairy is a mythical figure like Santa Claus for children in western and western-influenced cultures. When the children get their first teeth out, they put the tooth under their pillow, the tooth fairy comes at night when the children are sleeping and leaves a gift in place of the tooth that has erupted. In Canada, on the other hand, it is customary to substitute money for gifts.



Figure 4. Tooth lamp
Source: URL-4

The arrival of a fairy at night for the tooth placed under the pillow is an example of the tooth being a sign in the night lamp. Here, the signifier has a causal proximity to the signified without being arbitrary.

In the second example a lighting made of gold is seen (Figure 5). In Peirce’s use of gold has been the index of wealth and symbol of power of societies and countries that have always preserved their value for centuries. “According to Barthes, gold is a symbol of wealth and power. For example, in the movie Ivan the Terrible, he shows the baptism of the young Tsar in gold coins as a symbol of wealth, power and status” (Fiske, 1990, p. 91). The cost of a chandelier made of gold is very high. It is a product that can be obtained by people with a certain economic power. The product made by gold is an index of wealth, on the other hand, a symbol of power.

At first glance, the lighting (Figure 6) chosen consists of a long light cord. There is a long cord and a knot at the end of the cord. Vertical lighting from the ceiling gives light to the room and beside lighting it evokes the execution. A thin cord extending from the ceiling, an opening so that a human's head can pass, a knot at the end of the cord, which is designed to narrow and expand according to people's neck can be likened to an apparatus formed by hanging the rope from the ceiling for a suicide or execution. The index of this example of lighting is suicide, execution, and indirect death.



Figure 5. Chandelier made of gold
Source: URL-5

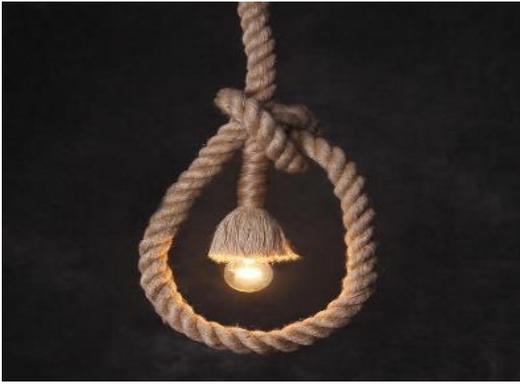


Figure 6. Lamp with long cord

Source: URL-6



Figure 7. Cowboy boot table lamp

Source: URL-7

In this example, a table lamp whose body is designed as a boot is seen (Figure 7). Such a boot reflects the “cowboys' style. The index of this lamp is the cowboy and Western culture. There is a direct connection between the signifier and the signified. On the other hand, the stars, and colors at the top of the boot are the color and the format of the flag of the United States of America. This design consists of a symbol as the American flag, an icon as the shape of a lamp body and an index as the cowboy (Çorbacioğlu, 2022, p. 42).

When using index in design, the relationship between the signifier and the signified is not intended. We perceive this relationship with our cultural and social experiences. While creating designs in our examples, neither tooth fairy, nor wealth, nor cowboy perception was aimed. The main aim of the designs in appearance is lighting. We can interpret the indexes in these designs with our cultural and social experiences. These indexes do not have the same value in every culture.

2.3. Use Of Symbol in The Lighting Products

A symbol is a sign that connects its object through social convention, agreement, and rule and “which refers to the object that denotes by virtue of a law, usually an association of general ideas, which operates to cause the symbol to be interpreted as referring to that object” (Peirce, 1978, p. 140). Symbols can be considered as a rule or a habitual connection.

In such signs, there is a causal and consensual relationship between the signifier and the signified. This compromise is a social convention or is bound by rules. Symbols are produced and used for communication purposes. (Çorbacioğlu, 2014, p. 950)

In the lighting design (Figure 8) that is chosen as an example, symbols such as words, punctuation, numbers, and national flags created by social convention are used. Alphabet letters containing the American flag, American flag colors and stars are used as symbols in the designed lamps. These letters are the initials of the United States of America. All these items belong to American culture. It was formed by social convention in society, and they are



Figure 8. American flag lamp

Source: URL-8

learned and taught. This design also includes an icon. The map of the United States of America is an icon because it shows its geographical boundaries and represents this country with its lines.

Some designs contain both icons, indexes, and symbols. In this lamp example (Figure 9), the lamp is similar to the body of a phone-box. There is a similarity between the icon and the object. The Red phone box is also the index of London.

Following the privatization of telephone services by British Telecom in 1980, the long-used bright red telephone cabins were replaced. The new model, which resembles a glass box, was purchased from the American manufacturer at a lower cost. This new model was claimed to be more efficient in many ways. However, the removal of red telephone cabins used since 1936 has caused public reaction and outrage (Heskett, 2017, p. 127). The social convention that the public accepted it as a distinctive element of British identity could be the basis of the fact that these telephone cabins were considered one of the symbols of British culture since 1980. In this case, we can also consider the red shiny telephone cabin as a symbol.



Figure 9. London telephone box table lamp
Source: URL-9

There is also a crown on the top of the phone box as an index. This is the index of England governed by the Kingdom regime. The flag of England above the lamp is a flag created by the social convention of the England community and is the symbol of England.

Peirce’s triadic classification can be summarized in the following diagram (Table 1) (Berger, 2004, p. 11) with examples of lighting shown and analyzed in this study:

Table 1. Three Aspects of Signs

	Icon	Index	Symbol
Signify by	Resemblance	Causal connection	Convention
Examples	Spider chandelier	Tooth lamp	American flag lamp
	Nuclear explosion bomb lamp	Chandelier made of gold	London telephone box table lamp
	Colorful octopus chandelier	Lamp with long cord	
Process	Can see	Can figure out	Must learn

CONCLUSION

It has been needed to illuminate the places where people live since the formation of humanity. After meeting this need there was a need to create products that not only fulfill the task of illumination, but also satisfy the personal tastes of people. Apart from the practical, convenient, useful product that not only performs the function, but also offers the creation of “designer-brands”, products also have started to serve for the decoration of the home and demand has increased for this style which is much more expensive. Over time, the understanding of form function begins to disappear. Artificially lighting areas without sufficient sunlight is the primary

function of lighting today, lighting products have attached importance to carrying aesthetic values as well as the recovery functions from darkness, which are their main functions. It should present creative, artistic images and in a sense, it should be aesthetically successful. Depending on technological developments, its dimensions and forms have changed, and it has become one of the important parts of decoration.

As a result, it has become increasingly important that industrial design products also carry the features of marketability and reaching the target audience. Industrial products are communication tools and signs are one of the important tools to create this communication. It is one of the study areas of semiotics because they are messages and meaning carriers. In order for a design to reach the buyer, it is necessary to place the target signs correctly. Semiotics plays a major role in the design and marketing stages of the design.

Design products were chosen aiming to visually use the concepts described in Peirce's classification, to experience how they can be used within a design and to bring out how the semiotic approach can contribute to the design of a product. With the use of each concept in products, conceptual elements are explained with visual examples.

Based on similarity relations, influencing the target consumer with the method of making inferences based on experiences, using symbols created by social conventions are the ways that will guide designers. It is thought that the designs created by the designer by taking inspiration from these methods can easily find a place in customers. In order for the products to be selectable and recognizable, semiotic elements should be used consciously in the design.

In our study, analysis was made on the existing lighting samples, and no new design was made. In later studies, an exemplary design can be created based on semiotic approaches explained with examples.

There is no conflict of interest with any institution, organization or person related to my article titled Semiotic Approach in Lighting Product Design.

REFERENCES

- Barthes, Roland (1979). *Göstergebilim İlkeleri*. Ankara: Kültür Bakanlığı Yayınları.
- Berger, Arthur A. (2004). *Semiotics Analysis*. California: Sage Publications.
- Bille, Mikkel (2015). Lighting up cozy atmospheres in Denmark. *Emotion, Space and Society*, 15,56-63. <https://doi.org/10.1016/j.emospa.2013.12.008>.
- Bille, Mikkel (2017). Ecstatic things: The power of light in shaping Bedouin homes, *Home cultures. The Journal of Architecture, Design and Domestic Space*, 14(1),25-49.
- Butler, Clay P. (1962). The light of the atom bomb. *Science*, 138(3539), 483-489. <http://www.jstor.org/stable/1709609>
- Calvillo, Cortés. A. B., & Luis E. Falcón, M. (2016). *Emotions and the urban lighting environment: A cross-cultural comparison*. California: Sage Publications.
- Casakin, Hernan P. (2007). Metaphors in design problem solving: Implications for creativity. *International Journal of Design*, 1(2), 23-35.
- Chandler, Daniel (2007). *Semiotics: The Basics*. London: Routledge.

- Chen, Huaiyu (2019). A study on a stone lantern from Dongzhang village in medieval China, *Studies in Chinese Religions*, 5:3-4, 306-329, DOI: 10.1080/23729988.2019.1676085.
- Cheng, Jianxin, Ye, Jjunnan, Yang, Chaoxiang, Yao, Lingyun, Ma, Zhenzhen, & Li, Tengye (2018). *Study on innovative design of urban intelligent lighting appliance (UULA) based on kansei engineering*. 6th International Conference, Las Vegas.
- Chiu, Y. R., Chou, H.M., & Chen, H.Y. (2014). *Symbolic analysis and metaphorical character of ancient Chinese lighting fixtures*. 2nd International Conference on Innovation, Communication and Engineering, ICICE 20132014, 743-747, Huadong.
- Cobley, Paul & Litza Jansz (1999). *Introducing Semiotics*. Cambridge: Icon Books.
- DuBose, Jennifer, MacAllister, Lorissa, March Hadi, K. & Sakallaris, Bonnie (2018). Exploring the concept of healing spaces. *Health Environments Research & Design Journal*, 11(1), 43-56. <https://doi.org/10.1177/1937586716680567>
- Çorbacioğlu, Eda (2022). *Tasarımda Göstergebilim: Kansei Mühendisliğinin Temelleri*. Ankara: Günce Yayınları.
- Çorbacioğlu, Eda (2014). Utilisation des icons et des symboles dans les affiches publicitaires, *The Journal of International Social Research*, 7(34), 948-953.
- Duckworth, Chloe N., & Anne E. Sassin (2017). *Colour and Light in Ancient And Medieval Art*. New York: Routledge.
- Erkman, Fatma (1987). *Göstergebilime Giriş*. İstanbul: Alan Yayıncılık.
- Fiske, John (1990). *Introduction to communication studies*. London: Routledge.
- Gray, W. A., Kesten, K. S., Hurst, S., & Anderko, L. (2012). Using clinical simulation centers to test design interventions: A pilot study of lighting and color modifications. *Health Environments Research & Design Journal*, 5(3), 46-65. <https://doi.org/10.1177/193758671200500306>
- Hadi, K., Du Bose, J. R., & Choi, Y.-S. (2019). The Effect of light on sleep and sleep-related physiological factors among patients in healthcare facilities: a systematic review. *Health Environments Research & Design Journal*, 12(4), 116-141. <https://doi.org/10.1177/1937586719827946>
- Heskett, John (2017). *Design*. Ankara: Dost.
- Jolly, Martine (2008). *L'Image et Les Signes*. Paris : Armand Colin.
- Karahüseyin, Güller (2009). *Shedding Light on An Era*. İstanbul: Promat.
- Karol, Elizabeth & Dianne Smith (2019). Impact of design on emotional, psychological, or social well-being for people with cognitive impairment. *Health Environments Research&DesignJournal*, 12(3),220-232. <https://doi.org/10.1177/1937586718813194>.
- Kotler, Philip (2000). *Marketing Management*. New Jersey: Prentice Hall.
- Lakoff, George & Mark Johnson (1980). *Metaphors we live by*. Chicago: The University of Chicago Press.
- Levy, Paul (1991). *L'Idéographie Dynamique : Vers une Imagination Artificielle*. Paris: La Découverte.
- Nacsa, Julia, Barakova Emilia & Frens, Joep (2011). Sharing meaning and physical activity through a tangible interactive lighting object, Proceedings of the Desire'11 Conference on Creativity and Innovation in Design. Eindhoven, Netherlands.

- Park, Nam K., Pae, Joo Y., & Meneely, Jason (2010). Cultural preferences in hotel guestroom lighting design, *Journal of Interior Design*, 36(1), 21-34.
- Park, Nam K., & Cherly A. Farr (2007). The Effects of lighting on consumers' emotions and behavioral intentions in a retail environment: A cross-cultural comparison. *Journal of Interior Design*, 33, 17-32.
- Pierce, C. Sanders (1978). *Ecrits Sur Le Signe*. Paris : Editions du Seuil.
- Pont, Sylvia & Huib De Ridder, (2018). Lighting perceptual intelligence. In *electronic imaging: Human vision and electronic imaging. Society for Imaging Sciences and Technology*, 1-11. <https://doi.org/10.2352/ISSN.2470-1173.2018.14.HVEI-502>
- Saussure, Ferdinand (1972). *Cours de Linguistique Générale*. Paris : Editions Payot.
- Şerefhanoglu, Sözen M. (2001). Aydınlatma görsel konfor iç mimarlık ilişkisi. *Arredamento Mimarlık*, 05, 11-19.
- Taieb, Amine H., Msahli, Slah, & Sakli, Faouzi (2009). Design of illuminating textile curtain using solar energy. *Design Journal*, 12(2), 195-216.
- Vihma, Susann (1990). *Product form-a semiotic approach. Semantic visions in design*. Symposium on Design Research and Semiotics, Helsinki.
- White Michael, Ancoli-Israel, Sonia, & Wilson, Richard R. (2013). Senior living environments: Evidence-based lighting design strategies. *Health Environments Research & Design Journal*, 7(1), 60-78. DOI: 10.1177/193758671300700106
- Xue, Hongyan & Yang Li (2009). *Preliminary study to ideas and methods of modern lamp form design*. IEEE 10th International Conference on Computer-Aided Industrial Design and Conceptual Design: E-Business, Creative Design, Manufacturing, Wenzhou, China.
- Yang, Chaoxiang, Zhang Zhang., Yang Xu, & Le Xiaohan (2015). The study of the cultural values of lighting products based on intention recognition and 3D printing technology, *Communications in Computer and Information Science*, 276-283.

Internet Sources

- URL-1: https://www.etsy.com/market/chandelier_lighting?ref=cq_tag_raised_image-2 (Accessed 10.12.2021)
- URL-2: <https://tr.pinterest.com/pin/4https://www.taki.com.tw/blog47897125441604892/> (Accessed 09.12.2021)
- URL-3: <https://masonscreations.com> (Accessed 20.09.2021)
- URL-4: https://www.shopsscrubsandclogs.com/products/dental_lamp (Accessed 02.10.2022)
- URL-5: <https://www.indiamart.com/proddetail/antique-gold-chandelier-light-14239781773.html> (Accessed 10.07.2022)
- URL-6: <https://tr.aliexpress.com/item/1005003271059941.html> (Accessed 04.10.2021)
- URL-7: <https://hereitizzz.com/usaboflla.html> (Accessed 19.12.2021)
- URL-8: <https://www.zulily.com/> (Accessed 18.07. 2022)
- URL-9: <https://www.ubuy.co.in> (Accessed 10.12.2021)
- Sektörüm Dergisi, *Aydınlatma nedir? Aydınlatmanın tarihi, aydınlatma tekniği ve türleri*. <https://www.sektorumdergisi.com/aydinlatma/> (Accessed 07.12.2020)

BATI

EDEBİYATINDA AKIMLAR

editör
OKTAY YİVLİ

HATİCE FIRAT
YASEMİN MUMCU
OKTAY YİVLİ
OĞUZHAN KARABURGU
BERNA AKYÜZ SİZGEN
NİLÜFER İLHAN

ÜMMÜHAN TOPÇU
SEFA YÜCE
HANİFİ ASLAN
METİN AKYÜZ
MEHMET SÜMER
YAKUP ÖZTÜRK



Prof. Dr. Önder Göçgün

TİYATRO DENEN HAYAT SAHNESİ



PROF. DR. ÖNDER GÖÇGÜN

Türk Tasavvuf Şiiri

AÇIKLAMALI VE YORUMLU ÖRNEKLERLE



MODERN TÜRK EDEBİYATI

editör
OKTAY YİVLİ

MUHARREM DAYANÇ
OKTAY YİVLİ
MACİT BALIK
MAHMUT BABACAN
SEVİM ŞERMET

YASEMİN MUMCU
BEDİA KOÇAKOĞLU
NİLÜFER İLHAN
MAKSUT YİĞİTBAŞ
SELAMİ ALAN

