Abstract
Graphic design tries to convey the message to the viewers through an effective and innovative process. It includes a wide variety of branches such as book illustration, trademark design, motion pictures, packaging, web site design, etc, all of which try to meet three basic functions: giving information or instruction, making introduced and identity presentation and advertisement or promotion. Each distinct function communicates with the viewer through a different way. Like other forms of visual media, graphic design conveys the messages through three different ways: representational (or simulation of nature), abstract and symbolic (or encoding). Different messages are generally expressed by different modes of graphic design approaches. The present study focused on representation approach in graphic design and on its justification usage. To meet this end, this study first addressed the content of representational approach, its different kinds and the ways it worked in graphically designed works for graphic design students and all those interested in this field. Meanwhile, different ways of communication as well as how they can be realized graphically were addressed. Since creativity always plays a major role in graphic design and seemingly representational expression conflicts with creativity, the present study aimed to make clear the relationship between creativity and representational expression. The main questions posed here include 1- In what ways representation is realized in graphic design? 2- Basically what intention is met by graphic representation? 3- How is a creative graphic representation possible? The data were collected based on library sources and on certain graphic designs. The results of this applied research were analyzed descriptively. The results indicated that in all three functions of graphic design mentioned earlier, certain objectives are met including believability, introducing, straightforward communication, attracting attention, establishing credibility, guiding direction, being convinced

Keywords
Representation, Graphic, Visual communication.

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Introduction
During the first half of the 20th century, graphic design underwent an evolution under influence of modern art movements as well as communicative necessities of the First World War. The urgent need to establish a quick communication at that time pushed forward the field of graphic design from its merely decorative function sometimes deviating the viewer’s attention. Consequently, graphic design started to incline towards refinement, simplicity and a sort of mathematically oriented structuralism. In fact, the big turning point in the life of graphic design was diverging from decorative and painting purposes in favor of modernism and brevity in conveying the massage; an event which made the process of graphic communication with the viewer far easier. According to Dondis (1983), visual messages may be generally communicated through three basic ways including representational, abstract and symbolic. Focusing mainly on representational approach, the present research aims to answer theses questions: 1- In what ways can representation be realized in graphic design? 2- What is the purpose of representation? 3- Given the importance of creativity in graphic design, how the function of representation can be justified? The author believes that graphic representation can be considered from three different functions including 1- graphic functions (applying a representational element to satisfy informative, identification or promotional purposes); 2- semantic functions (the representational element can be symbolic, indexical or iconic) and 3- Representation in terms of how it is presented in graphic works. For example, whether the way of representation is a kind of refinement or of illustration and the like. For the sake of brevity, in this research, representation has been examined in terms of graphic functions.

Review of Literature
Since the subject of representation in art is interdisciplinary in nature, various thinkers, such as Stuart Hall, Foucault, Derrida, Barthes, Saussure, Dayer and others have provided different views about it. For brevity, we suffice ourselves to address the views of the thinkers about the pictorial representation given in the following table:

<table>
<thead>
<tr>
<th>Table 1. The history of representation. Source: authors.</th>
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<tbody>
<tr>
<td>The view that art is originally rooted in adoption or inspiration is one of the oldest theoretical views on art… Art is, in essence, based on adoption and representation. The common element of all great art works is adoption from the natural world… The appreciation of representation in art works is, in essence, either identical or conventional. Basically, the value of representation in art resides in mental imagination (Sheppard A. (2002:31-26-9)).</td>
</tr>
<tr>
<td>All pictures refer to other pictures, either historical o contemporary ones. In all them, something has been borrowed, referred or alluded to (Walker and Choplin, 1997:15).</td>
</tr>
<tr>
<td>The idea that visual arts are in reality representation, adoption or reflection of nature, is rooted in Greek school of thought… Both Plato and Aristotle wee among the first thinkers who proclaimed that Art is representation or mimesis (imitation) of reality (Hurst House, 2009:53-58).</td>
</tr>
<tr>
<td>Social semioticians incline to view this issue that representations are totally different from reality… In fact, there are no semiotic system which are ideologically neutral; the function of the signs is not only giving reference but also satisfaction a need or purpose. Representations are made familiar to us through repletion in application and, hence, we interpret them as natural or immediate (Arnheim , 2009:31-32).</td>
</tr>
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<td>In semiotic theory, the process of recording ideas, pieces of information or messages is called as representation (Danesi, 1983:20).</td>
</tr>
<tr>
<td>In the process of representation, three convergent purposes are followed: An idea, as a whole, is considered (which is a combination of what we see and of what we know). Then, one of the intended dimensions is focused on and is represented. Finally, the artist/graphic designer gets his/her desires (or inspirations) involved.</td>
</tr>
<tr>
<td>Visual messages are conveyed in three ways: representational, abstract or symbolic(Dondis, 1983:103).</td>
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<td>In order to understand representation, we have to understand clichés. In fact, representation connects meaning and language to culture. Of course, with respect to the relationship among representation, meaning, language and culture, different interpretations of representation can be considered. From this view, representational theories may be put into three distinct classes: reflective theories, intentional theories and constructive theories (Hall, 2010).</td>
</tr>
<tr>
<td>Representation means using language to express meaningful things about the world or showing the world to others. Presentation is part of a process by which meaning is produced and is communicated among the members of a culture (Hall, 2012: 31).</td>
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</table>
**Representation**

Before addressing the issue of representation in graphic design, let us review certain definitions of graphic design and its applications. Different thinkers have provided different definitions of graphic design including a communicative bridge with the viewer, a creative process to share ideas and information with the viewer, applying symbols and cultural signs to transfer information to the viewer, etc. Below, some of these definitions have been summarized:

<table>
<thead>
<tr>
<th>Table 2. Functions and definitions of Graphic design. Source: authors.</th>
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<tr>
<td>By substituting communication design for graphic design in 2011, International Council of Graphic Design Associations (ICOGRADA) defined the former as follows: communication design is an intellectual, creative, resourceful and technical activity which innately covers the visual approaches for the visual problems (ICOGRADA, 2013).</td>
</tr>
<tr>
<td>Graphic design has three functions the most fundamental of which is identifying including introducing and recognition, such as trademarks. The second function is information design (maps, graph, guiding signs). The third is presentation and promotion (posters and promotional presentations) (Hollis, 1997:10).</td>
</tr>
</tbody>
</table>

The works of visual communication are the result of abstract and concrete efforts of designers to attract the viewers’ attention. In other words, they are the senders’ actions versus the receivers’ reactions. In visual communication, we face two basic processes: Creativity of the designed work and the communicative process of the designed work.

Table 3. The history of representation in Graphic design. Source: authors.

While in her book, Visual Communication from the View of Semiotics, Fahimeh Pahlevan considers a trademark as a representation having a signifier and a signifies (or expression and content), she believes that iconic trademarks have an additional semiotic aspect called reference of picture which is the same as the physical thing referred to. A good example for this is the picture of a smiling cow for a dairy. She also holds that the representation of a trademark meets, simultaneously, two purposes of conceptual representation and visual representation. By the former, she means a sign or a set of signs by which the values of an organization, firm, whatsoever, are expressed. By the latter, she means the description of the specifications of an organization/system. In this sort of representation, the real content of the message is conveyed through an icon (Pahlevan, 2012:121).

Pictorial and ancient documents indicate the fact that design of visual communication deals with representing various kinds of pictures from the ancient time to the present (Sik Hong, 2009).

**Statement of the problem**

Representation may imply imitation, adoption or a cliché. Similarly, Richard Dayer maintains that representation is a construction of reality provided by the media. Since, On the one hand, creativity plays a major role in graphic representations and, on the other hand, representation sometimes implies a negative connotation, the present research aim to make clear the rationale of applying representation in graphic works to remove he negative connotation of the word.

**Objective of the Research**

This research aimed to address the various approaches of graphic communication, especially graphic representation and the role it plays in visual communication so that the graphic design students and those interested in the topic can have a better understanding of the issue.

**Necessity of the Problem**

As a medium, graphic design has a key role in everyday communication. This may include applications such as design of guiding signs, direction signs, security signs, danger signs, etc. Since in graphic design both letters and pictures may be used, it seems that visual representation may help establish credibility and believability. In addition, through making a mental association, it may facilitate a communication. Considering this issue of recognition, the necessity of the visual expression in graphic design is made clear.

**Methodology**

This research, in terms of objective is an applied one which through a qualitative approach and based on a descriptive way tries to express the result with the help of relevant graphic works. The data in this applied research were collected based on library sources and databases. Also, the obtained
The results were analyzed descriptively.

Discussion

- **Different kinds of graphic representation**
  As mentioned earlier, graphic representation may be addressed from different aspects including 1- graphic applications 2- semiotic applications and 3- the way a graphic work is represented.

- **Graphic-oriented representation**
  According to Hollis graphic design functions in three ways: identifying (including introducing and recognition, such as trademarks; information design (maps, graph, guiding signs); presentation and promotion (posters and promotional presentations) (Hollis, 1997:10).

- **Semiotic-oriented representation**
  Charles Sanders Pierce, American philosopher, put different signs into three distinct groups: an iconic sign is a sign, which resembles its reference in a certain way. For example, the photo of a given person, shows the real figure of the person. An indexical sign is a sign indicates an association between two things. Unlike the iconic signs, indexical signs do not directly resemble their references. Rather, their similarity is implied. A prime example for this is a hand sign pointing to here and there. A symbolic sign is a sign based on convention. Words, are basically among the symbolic signs (Danes, 2009:75-76).

  To Pierce, iconic signs may be grouped in three classes: visual icon-like, schematic icon-like and metaphoric icon-like. Chandler adds that »index is immediately connected to its subject. Psychologically, indexes function through affinity rather than similarity or mental association (Chandler, 1999: 72-73). Thinkers like Shepherd maintain that appreciation of representation by the viewer is dependent upon identification or convention. Thus, to appreciate certain representations such as iconic or symbolic signs, there should be a resemblance or convention.

- **Content of representation**
  In addition to their function and content, graphic representations can be discussed in terms of the way they appear in a graphic work depending on the subject. In other words, the way that a graphic element is represented in a composition is technically important. The fact is that graphic works started to improve as printing technology advanced. Even a simple tool like airbrush helped the improvement process. This reached its climax with mind-boggling advancement of computer technology. To be brief, how a graphic element is represented is fundamentally important.

- **Identification**
  As mentioned earlier, one of the functions of representation is identification, this is, it makes clear the nature of a thing, where it belongs to and where it comes from (which country, tribe, group, etc). The identifier element, like the trademarks, may be a color, flag, sign, pattern, picture or a certain design.

  Identification through representation meets two purposes. First, a sign or symbol is designed to refer, as semanticians put it, to a person or a thing. This is in line with designing a trademark. For example, it may imply a historical background (Fig. 1). Second, the designed sign is identically represented. This is what Stuart Hall (1997) calls it as clichés building. As he put it, to appreciate representation, we have to understand clichés. Widely-approved traffic/driving signs or certain trademarks fall in this class.

  When representing an identity, the designer is not allowed to change the sign; just in the same way that preventive measures do not allow a company to change its trademark. In addition to certain sign(s), representation of a company’s identity may include other visual elements such as colors, letters, etc (Fig. 2). In certain cases, representation of an identity may imply a nation’s culture. This is especially evident in representational design of visual and symbolic elements in coins and notes of a country. Another form of representation of identity is redesign. Here, in the course of time, a firm, organization, whatsoever, may decide to make modifications in its trademark/logo. Certain graphic representations may share a given style created by the designer.
Fig. 1. Trademark of the Kesht-va-Sanat-e-Karoon (Karoon Agriculture and Industry Complex). The trademark is the representation of an ancient image belonging to Shush civilization. The representation is both in line with the activity of the complex and with the climate of the location. The aim has been focusing on the historical background of the complex. Source: http://Karuncane.com.

Fig. 2. The picture of an organizational identity of a company. Here, a combination of colors and signs have been represented. The aim has been introducing the company. Source: www.paperproductmachines.com.

Fig. 3. Representation of the course of a running race. The aim has been informative. Source: www.paperproductmachines.com.

Fig. 4. (Up) Map of London's underground based on the real course. (Down) Graphic representation helps to have a better understanding of the course. The aim has been finding a straightforward course. Source: wobblingsolutions.wordpress.com.
(Down) Graphic representation helps to have a better understanding of the course. The aim has been finding a straightforward course. Source: Author’s archive.

- **Informative graphic representation**
The function of an informative graphic representation is announcing an event, warning, danger, guide, scale conversion, etc. Maps and informative diagrams, scientific or educational pictures and (direction) signs, all fall in this function. For example, visual representation for the guiding signs of monuments or public spaces should be as recognizable as possible to the viewer. Fig. 3 illustrates an informative representation of the course of a running race. Another kind of informative representation is simplified representation. This function has been shown in Fig. 4: the map of the underground course has been simplified to make it readily understandable. Here, in fact, a sort of recreation of the reality has been done. The two aspects of creativity and straightforward communication, earlier pointed out by Pahlevan, are evident in the map representation.

In cases where instructional purposes are not possible by media such as photography, graphic representation plays an effective role. This sort of representation is the picture making of a subject or process which happens in reality for the sake of instructional purposes (Fig. 5). Examples of such function can be seen in educational books, pamphlets and CD’s. The general purpose of this kind of representation is to understand the details of an event or a piece of information more easily. The narrative representation encompasses images which normally have a starting and end point. Such

![Fig. 5. A schematic graphic representation of how to use dental floss. The aim has been instructional. Source: www.paperproductmachines.com.](image)

![Fig. 6. Advertisement for a kitchen knife. Exaggeration in the visual representation by showing the chopping board being chopped itself, shows off the sharpness of the tool. The aim has been a quick communication through promotion. Source: www.themost10.com.](image)

![Fig. 7. Packaging. The aim has been showing the content of the package. Here, representation has met an informative intention. Source: www.ultraupdates.com.](image)
images may be the representation of a piece of news, an event or sequences of a happening. The narrative representation is shown in a serial-like fashion. Picture making in educational books for children, generally conveying a sort of ethical message, falls in this kind of representation.

● **Promotional graphic representation**

The major objective of promotional graphic representation is fixing the intended message in the viewer’s mind. Various advertisements, billboards, promotional leaflets and local advertisements all fall in this type of representation. Promotional graphic representation often aims to express an intended function or to make a message believable, which is sometimes, exaggerated (Fig. 6).

● **Multi-purpose representation**

Certain graphic representations may satisfy more than one (identification, informative promotional and/or decorative) purpose at the same time. Such function may appear on the book covers, leaflets or packages (Fig. 7). Such representations inform us of the content of a product or attract our attention by promotion.

### Advantages of representation

- Making a quick communication.
- Making the identity or subject more readily recognizable.
- Making the documents more believable.
- Making the instruction easier.

### Disadvantages of representation

- Representations may turn dull and repetitive.
- In certain cases, especially in designing signs, two items may become too similar (and, hence, difficult to be differentiated from each other).

### Results

As mentioned, graphic representations may serve different purposes. At the same time, a given representation may satisfy more than one purpose. For example, an informative graphic representation may serve the identification and promotional functions as well. Thus, beyond the distinct functions of the graphic representations addressed in the review of literature, the obtained results are described as follows: first, certain representations may have not a real correspondence; they may just represent an abstract idea. Second, not all representations refer to the past; they may refer to the future (like the futurist representations for advanced technologies). Third, innovative graphic representations may be called artistic recreations. Fourth, certain graphic representations, mainly trademarks or signs, can not be changed due to the special function they are meant to serve. Examples of such cases may include the trademarks/logos of the firms, organizations and formal emblems of the countries. Therefore, applying clichés or repetitive elements in graphic representations to serve identification purposes is not only justifiable but also necessary.

### Conclusion

The conclusion of this research starts with answering the main question posed earlier. In answering the question in what ways representation is realized in graphic design? The results indicated that representation in graphic design can be addressed from three distinct aspects including functions of graphic design, semiotic approach towards graphic design and the nature of visual expression in graphic design. This research focused on three functions of graphic design, namely, identification, informative communication as well as promotional aspect. Identification representation aims at attracting the viewer’s attention towards a product or service. Similarly, informative graphic representation provides instruction, guidance or warning. Also, promotional graphic representation tries to establishes credibility, persuade the viewer and, finally, communicate with the addressee as easy as possible. Another function of graphic representation is making evident the content of a
product/service. Sometimes graphic representations convey a one-to-one correspondence, as it is the case in
driving/traffic signs, and hence the can not be changed. At the same time, a cliché theme can be communicated
through an innovative approach. In this case, the designer’s work is a sort of recreation. In brief, the core
objective of graphic representation is making a straightforward, easily recognizable communication. In order
to meet this goal, the designer’s creativity plays a key role. Therefore, for the sake of informing the viewer of
the economic, trade and security aspects of a product/service, taking advantage of repetitive/familiar elements
can be justifiable.

Meanwhile, in order to improve the quality of communication, a complex idea/concept can be technically
conveyed through brevity in representation. Notwithstanding, a limited number of graphic representations, is
the outcome of the designer’s productive mind and stands for no outer correspondence. Of such cases are the
signs and symbols created by the innovative designers, which, after a while, become publicly well established.
In short, the scope of graphic representations can be as simple as applying a picture or a color to indicate a
given intention or as complex as creating symbols to convey a symbolic and abstract concept.

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