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## Introduction

### On the representational competence of images, texts and schematic elements

Welcome to the first issue of IDJ 25<sup>th</sup> volume!

This issue brings fresh views on the topic of information representation for people, a topic which has received increasing attention from researchers and practitioners in the field of information design.

A variety of studies have been conducted on aspects of content visualization. Those investigating the graphic syntax of communication artifacts have focused on their elements and their interrelations within the visual space, both in digital and printed format. As a result, descriptive models, taxonomies and visual morphologies have been proposed. Studies on the semantics (meanings) and pragmatics (use in context) of content visualization have also been of great interest to researchers. Thus, the understanding of information as well as of aspects of users' interaction with informational artifacts have been investigated empirically. For that, methods from the human-centered-design approach (e.g., user tests, ethnographic observations) have been employed to investigate the usefulness of information to people, their interest in the represented content, their motivation to acquire and use the information, and their level of satisfaction when interacting with informational artifacts. Within this scope, technology has not only made accessing information possible for various kinds of users, but it has also furthered the options for viewing and interacting with

information. The use of animations, augmented reality and immersive virtual reality are examples of technological resources available for that.

Regardless of the technology used, a key question should be answered by information designers when deciding on the graphic representation of a content: *How to represent content to successfully communicate the intended message?* There is a wide range of answers to this question. However, I would like to highlight here the importance of the representational competence of images, texts and schematic elements in conveying information. Although this is probably a topic familiar to IDJ readers, I believe it is a topic still worth mentioning.

Images are proven to be better than words/texts to represent, for instance, the notions of scale/relative size of objects, their volumes and shapes. On the other hand, conveying abstract and generic concepts (e.g., time, love) seems to be beyond the competence of images. Such concepts are in the representational domain of words/texts. In turn, statistical data, direction/orientation, processes and location information require schematic elements/compositions (e.g., arrows, charts, diagrams) to be used together with words and/or images. Thus, it can be said that the schematic elements seem to be a meta-mode of representation, since they are not able to convey a content by themselves: a chart without numbers is meaningless.

Despite the different roles that images and words may play in conveying information, images are widely used to represent abstract and generic concepts. Visual rhetoric is, then, employed. It is worth mentioning here the triad of the rhetoric appeal defined by Aristotle (384 BC to 322 BC) as *Ethos*, *Pathos* and *Logos*. Applying them to visual rhetoric,\* *Ethos* would be the appeal to authority, the credibility of the message/sender, the veracity of the representation (e.g. scientific illustration of the human body in a textbook). *Pathos* would be the appeal to emotion in the representation of information and/or user engagement (e.g., images about cigarette ills in anti-smoking campaigns). And finally, *Logos* would be the appeal to truth and logical reasoning through, for example, statistical representations.

Regarding digital graphic interfaces, visual rhetoric is particularly used in icons to represent actions to be performed by users when interacting with a device. For instance, stylized pictures of the ‘sun’ and of a ‘house’ are visual metaphors for icons which intend to represent respectively: brightness on the screen and the main ‘page’ of a website (‘the homepage’). The use—conscious or not—of visual rhetoric as a representational strategy may have implications for message communication. It requires that one makes inferences about a meaning through associations within a context (e.g., sun → light → bright → graphic user interface context → screen brightness). Thus, a person should have a certain visual repertoire, as well as previous experience/knowledge about the subject/topic to be able to properly infer about the icon meaning. Otherwise, the communication of the message will be impaired. This process involves

generative learning, in which a person selects, organizes and integrates previous and current information to produce meaning. In this way syntax, semantics, and pragmatics of information representation all come together.

Aspects of the graphic/visual language are addressed in the 25.1 IDJ through peer reviewed articles from the second edition of the Information+ Conference. The conference chairs, Isabel Meirelles (OCAD University) and Marian Dörk (FH Potsdam), were the guest editors of this issue. Through an intense editorial work, they brought together a number of outstanding studies on information visualization to be presented to the IDJ readers.

I hope the 25.1 issue will allow readers to reflect on the representation of information in its various media and formats, and in doing so it will contribute to the thinking of information design.

Enjoy your reading!

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\* The relation between visual rhetoric and the triad of the rhetoric appeal is further discussed in Escobar, B. T. & Spinillo, C. G. (2016). Retórica visual na infografia sobre saúde [Visual rhetoric in health infographics]. *InfoDesign: Brazilian Journal of Information Design*, 13(2), 162–179.