Images and Words

Abstract: The image as a new indexing resource to be integrated to the information systems, must be studied with the final purpose of representing its contents according to the special characteristics it exhibits. Differences between the traditional documents and the singularities of digital audiovisual information that is substituting analogical information, are being researched. Another aspect being examined is the re-evaluation of the thesaurus and the convenience of its use in the new informative environment. It has been proposed an image analysis extrapolated from the Panofsky’s proposal to analyze art works and, therefore, foresee the representation of the different elements necessary for the audiovisual document analysis in the thesaurus to be built.

1. Introduction

The human being is exposed to a constant exercise with unreal images, taking into account television, computers, publicity at the streets and in the movies. Sixteen out of the twenty four hours of the day, he’s submitted to images that try to reproduce the real world. When sleeping there’s also image activity, dreams occur with images and imagination is accompanied by a representation with these ones: we imagine situations, solutions and actions. There’s even the proposal that man’s memory is stored in our brain in the form of images. The evolution of the intellect, and together with it, that of the visual-perceptive process, leads the man to develop an exceptional skill: that one of generating representations that “imitate” objects and scenes of the environment. (Yankelevich, 1993, 15-31)

The traditional photograph-illustrated document is being substituted in part by the audiovisual one, that nowadays has been transformed from analogical to digital systems, converting images, sound, music and voice in manipulable and feasible-to-transform data and intercalating them to generate another type of product, different from the original. Videos, movies, sound, texts and graphics are digital substances expressed in data. This characteristic of the digital information takes us back to many menhires and dolmens from the Stone Age, used by the Celtic druids to register their formulas and enchantings (it is said that the stones they used came from the Stone Age but the most accepted tendency affirms that these inscriptions dated from the Christian Era); also to take notes employing the alphabet known as Ogham, that originated from Ogma, the Celtic God of Writing. (Rosaspini, 1998, p. 180)

Davis confronts digital information with the Ogham stone because the traces of this writing are like the digital coding of the ancient Irish language, due to the fact that this alphabet uses a binary code, being expressed the letters and syllables by grouping vertical bars. However, the difference is that digital information is coded with zeros and ones, we cannot read directly from them as from the Ogham
"Digital technologies change the creation and information movement into a unique substance that is infinitely transformable. Film, vinyl, magnetic tape, paper, photosensitive paper, ink, graphite, paintings, all of them transformed into digital domain create a new medium different from any other thing previously invented. The digital substance can be transformed into any other thing by means of the computer. The audio data can be transformed into representative images. All the media are transformed into data types. We return to the Ogham stone, that is, coding all the ideas in a binary inscription". (Davis, 1997, p. 294) (translated from Spanish)

Few years have passed after the merging of the audiovisual and digital information; the literature generated about its organization in the librarianship field is not abundant, according to the originated expectation concerning a technology that appears to be very simple but that requires a greater study, not only about the way to index audiovisual documents but also about how to establish associations between the different contents in order to represent it and even about the way to design and create the digital document icons, issues that will not be treated in this paper.

2. Images Treatment in the Documentation

Images treatment in the information transmission processes has provoked a new paradigm in documentation, that leads towards the solution of complex methods and less frequent use of the natural language, for content analysis and image representation as object of information.

Documentation has followed with great interest not only the evolution of information processing, traditionally destined to the service of the information units, but it has also evolved together with the merging of the new sources and supports for the information transfer such as the image and the diverse media that carry it. This transformation has been triggered by the treatment of images within the calculation systems and services that has allowed the establishment of the image over the word in audiovisual documents for teaching, commerce and research.

The evolution that has affected teaching and knowledge transmission in recent times, leads towards distance methods, a field in which image has been reassessed as a resource with a high level of information density, and that requires with increasing urgency the creation of codes to represent it and help to decode its content associating it to the new information needs of the users, teachers or intellectual workers.

The librarianship role in the synthesis and analysis of information has been more appreciated due to the fact that it has not been limited to the description of form and content of traditional documents; on the other hand, according to this new need of interpreting contents in a world saturated with images, the librarianship has had to lean on thesaurus techniques that help him normalize to a certain extent images and contents associated in the web, so that the librarianship has become a sort of cartographer to the cyberspace navigators.

The abundance of images and the necessity to classify and organize them, makes necessary the creation of controlled languages with a hierarchical structure to represent from the most general to the most specific topics, relating them among
themselves and with other similar issues. This task has become a necessary work for information analysts, associated to the new knowledge production trends. Linguistic mediation through a documentary thesaurus with representations, including the different aspects of images’ content allows the indexing for further recovery of the digital image and audiovisual documents in general.

This paper originates from the premise of the thesaurus as a system that is much closer interrelated with the digital document as another system in itself, than natural language (that is without underestimating this late one as a searching option). The thesaurus and the digital document are interrelated according to the recovery of subject matters within an information system to facilitate the access to and the use of the digital document as such.

Information systems are part of the productive cycle of knowledge, the task of which is to transfer these information systems for social use. Registers of informative documents conform the information system and are structured in a way that they not only can be consulted one by one but recovered through access points strategically selected; they can also group common elements to several registers through the activation of document categories containing the same concepts. According to this, it can be introduced Lafuente’s definition about the operations of information categorization concerning documents, which presents as the generalization of a concept abstraction, related to all the documents containing it, “...the results of the analysis of document groups that are expressed in the form of document categories, that is to say, in abstract concepts defining their common properties and their most general relationships. These categories are the result of an abstraction that generalizes the particular or singular aspects of the documents produced and used by a community.” (Lafuente, 2001, p.163) (translated from Spanish)

The categorization and grouping properties of the documents analysed in the systems help the user solve specific problems of information. Common issues that can be found within a system of information are organized by a thematic classification, through a vocabulary control that helps the analyst as well as the user to conceptualise the issues contained.

3. Indexing of images

Santos Martínez proposes a model of iconological analysis for the cinematographic short story that seems to be also adequate to be extrapolated to the audiovisual information. (Santos Martínez, 2001, p. 2) The principles it uses come from iconology, which is the branch of history that deals with the theme or meaning of the works of arts, disregarding the form. They also come from iconography that studies the form. (Panofsky, 1970, p. 41)

Panofsky’s contribution consists in the classification of the different meanings present in a work of art; in order to do this he relates us common episodes of man’s life and classifies them with the same criteria that he uses to classify the work of art. According to this, it can be explained the extrapolation towards the audiovisual information that we need to do “…by transferring the results of this daily life analysis to any work of art, we can distinguish the three same strata in its theme or meaning.” (Panofsky, 1970, p. 39)

The primary or natural meaning, subdivided in factual and expressive is the one apprehended by identifying the pure forms, that is, specific line and color
configurations or specific masses of wood or stone with peculiar shapes, as representation of natural objects such as human beings, animals, plants, houses, tools, etc. The transmission of meanings by means of the form constitutes a pre-iconographic description of the work of art. Let's set an example, in the film about the sinking of the Titanic, the primary meaning of the scenes picturing the tragedy would have to be related to a sinking ship, the sea at night and human beings drowning.

The secondary or conventional matter is connected with themes or concepts. The motives acknowledged as transmitters of a conventional meaning can receive the name of narrations or allegories. The identification of such images, narrations and allegories constitutes the domain of what is commonly designated as "iconography". When we talk about "matter as opposed to form", the reference is to the field of the secondary or conventional matter, in other words, to the world of specific themes or concepts manifested in images, narrations and allegories, in opposition to the field of the primary or natural matter manifested in objects. Returning to the former example, the secondary or conventional matter is the sinking of a huge ship occurring during the night, that didn't have enough lifeboats or lifejackets for all the passengers.

The content or intrinsic meaning is recognized above the underlying principles that are manifested through an attitude or lifestyle, condensed in a play. These principles are revealed through the composition methods as well as the iconographic meaning. The pure forms, motives, images, narrations, allegories are recognized as manifestations of underlying principles, interpreting all these elements as symbolic. The discovery and interpretation of these symbolic values (that are many times unknown by the creator of the work and that may even differ from what it was intended to express) is the object of what Panofsky designates as iconology. In our example about the Titanic, the content or intrinsic meaning referring to the sinking scene prompted by the intensity of the music, the sound, the actors' physical appearance, their anguished faces, represents the impotence in front of nature, the immensity of the ocean, the sense of prioritize profits over safeness, etc.

Therefore, we can find three distinguished levels in an audiovisual: the pre-iconographic description, the iconographic analysis and the iconological interpretation.

In order to organize a digital information system, the audiovisual documents must be represented from the viewpoint of the theme or event dealt with alongside the document, the same as in the traditionally-printed information systems. But besides all that, they must represent very punctual objects, although their appearing is very ephemeral (as in the case of characters, institutions or very specific information), and whether this is related or not to the main theme of the original or main digital document. In a digital information system, the presence of the descriptors that represent it is, undoubtedly, more abundant according to quantity than in the traditionally printed systems. (Burke, 1999, 96)

The transmitted knowledge by means of the audiovisual document is a human cultural product and the word is used in order to transmit it, due to the fact that the word gives it the meaning, the precision and the clarity even to silent images, such as photographies. In a documentary system, the words that represent the meanings of the included documents are represented in the descriptors selected to index the document and extracted from a thesaurus. In general terms, the
objective of the content description is to determine the field of knowledge, classify the different meanings that conform it, express them in concrete terms and without ambiguities, translate such terms to the most appropriate language expressions, all of this with the final purpose of:

- Acknowledge the document object of analysis in a whole mass of documents.
- Represent the knowledge and learnings implicit in the document through a classification.
- Substitute the document.

Until recent years, the predominant paradigm was the linguistic communication for information, teaching and even for entertainment (Enser, 1995, 127), but in the multimedia digital documents the image constitutes the speech central element. It occurs the same, for example, as with a surgery procedure recorded for medicine students or the internal exploration of the human body. Images constitute a language analogous to any other the human being deals with, such as the verbal or the musical one. Despite all this, the image must be accompanied of an explanation of what is being seen, in order to guide the brain and the sight. “...and, however, the image is not the spoken tongue of our children because it lacks syntax and grammar. An image is neither true nor false, neither contradictory nor impossible. As long as it is not an argumentation, it is not refutable. The codes that it can or cannot mobilize are just readings and interpretations.” (Debray, 1994, 53)

The image must be represented in its contents in order to locate it among a series of documents with images and can only be represented by indexing terms belonging to the written or spoken document, from where key words for indexing can be extracted. If a written document deals, for instance, with Greek columns, only one term would probably be enough to represent the theme. In an information system containing the image of a Corinthian column, although the spoken text accompanying it is general, if the system policies constitute the precision of artistic elements, the column of the image should be described; moreover, it’s even probably required to add the type of acanthus- shaped leaf decorating its capital. Another variable would be added to this image if, for instance, next to this Greek column, the singer María Callas would appear. According to the content description she should be represented by an identifier, in this case, a character one.

Abstract or concrete ideas concerning any topic can be expressed in a document, even when it refers to more concrete situations represented in an image. Besides the theme, in the image it is important the shape, the color, the epoch and the details (Chen y Rasmussen, 1999, p. 295). To exemplify this, we can mention a written document about the landscape of a geographic area and an image representing that landscape. In an information system, the written document will be well represented by a descriptor that mentions the area, the type of landscape, the season of the year, the time of the day (it can be sunrise or sunset), the most notorious species of trees, etc.

Digital information includes image constructions that must be re-used many times due to its high obtainment cost in order to record them; sometimes because they constitute events or characters that could not be recorded again; or due to their distance in reference to the physical or temporary environment, or the immediate
need. Some other times it is due to the difficulty to record them given the fact that, occasionally, even images created as digital objects consume edition work hours.

It is important to review the forms, grammatical categories, grammatical accidents and descriptors’ thesaurus relationships to be able to understand not only their adequacy to the structure within a digital environment, but also the changes introducing those elements in a system with the capacity of integrating images and sound. Changes may not be substantial, nevertheless their presence is noticed when beginning the debate about each of their aspects separately.

The indexer abstracts the contents to be represented through a word synthesis, by means of a visual-perspective and analytical process of the document images and their explanation by means of the sound. This interlaced parallel among the natural environment perception, its replica through images and its representation by words, is carried out inside a dynamic information exchange in the community (Yankelevich, 1993, p. 18). The set of participant individuals in this relationship learns and shares the new forms of observing reality and the capacity of expression through a thesaurus that includes the adequate denominations for objects, contents and meanings of the audiovisual content.

4. Final Considerations

Description as well as representation of contents in the digitalized audiovisual information constitute basic elements for its broadcasting and recovery. It’s necessary to study the analysis and synthesis process to be able to translate the knowledge they contain and incorporate it to the information systems. The Panofsky’s method to examine the audiovisual information constitutes a proposal to be taken into account.

Thesaurus constitute a linguistic tool structured in descriptors’ categories and are adequate to represent the audiovisual digital information, if the different aspects of their content are incorporated to them. The representation of images demands the use of a greater amount of indexing expressions due to the fact that forms, conventions, contents, characters and institutions must be interpreted.

Words are valid to represent images and this is the adequate way to do it because, through language, the intellect abstracts what is observed in three dimensions and represents it.

References


