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VISUAL ARCHIVES: NEW INFOGRAPHIC INTERFACES

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ABSTRACT

The present article is part of a broader study that frames the concept and creation of visual archives for online press, in relation to infographics. In addition to being an operative discipline, Design presents itself as a theoretical response, through the analysis of conditioning in society and the anticipation of new communication processes.
By presenting and promoting a practical and theoretical investigation on infographics, we intend to reveal how we can communicate complex information content visually. Focusing on online press infographics, we propose to establish a new role by relating it to visual archives.
We will present selected case studies to focus on the possibilities of retrieval and presentation of past and present data, thus connecting a definition of visual archives with new paths for online dynamic infography.
Interface presents itself as an invisible aspect that interfuses the final outcome, and reveals infographics as a response that bonds technology and visual practice.

PALAVRAS-CHAVE

Visual Archives, Infographics, New Media, Interface, Visual Literacy

1. INTRODUCTION

The present article proposes to frame the concept and creation of visual archives for online press, in relation to infographics.

It is a research within the areas of design, visual literacy and, in particular, infographics, where we discuss how we communicate visually. Focusing on online press infographics, we proposed to begin a discussion about specific types of news where infographics and visual archives can find common ground.

We move into a new paradigm, where we abandon a period of automation of processes – a feature present since the Industrial Revolution – and walk towards an automation of information. One of the consequences is the need for greater clarity and progressive information systematization when we are in the presence of the multiplicity of data to which we have access. In the age of "information overload"[1] (TOFLER, 1970) we can say that the abundance of information and how we organize it is, above all, a problem of Design and, in particular, of Information Visualization.

2.KNOWLEDGE AND ARCHIVE

As an initial premise, we question how archives and knowledge are structured and created.

Theoretically we explain the acquisition of wisdom following, a sequential model: Data > Information > Knowledge > Wisdom (DIKW) (Fig. 1). This operative model calls upon itself certain types of logic, where data is presented in a linear sequence, like the information we find in books. However, something different occurs when we are confronted by the diversity of sources available online.

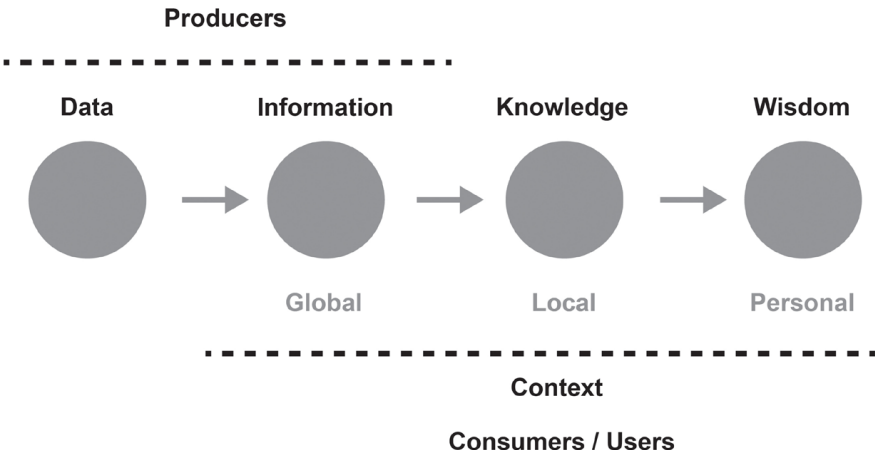

Figura 1 - *Knowledge Spectrum. Adapted from Nathan Shedroff (2000).*

The constant presence and accessibility does not make data easier to locate. Database search presents disperse and decentralized references in various sources, without a hierarchical order (fig.2).

As the amount of information increases, our ability to distinguish and attribute meaning decreases reciprocally.

This is made visible by:

- A new paradigm, recognized when our foundations of DIKW are shaken (WEINBERGER, 2006).

- An orderly logic, in post-modern era, and especially with the apogee of the Internet, increasingly frail. Diversity, interaction and information through private options is privileged.

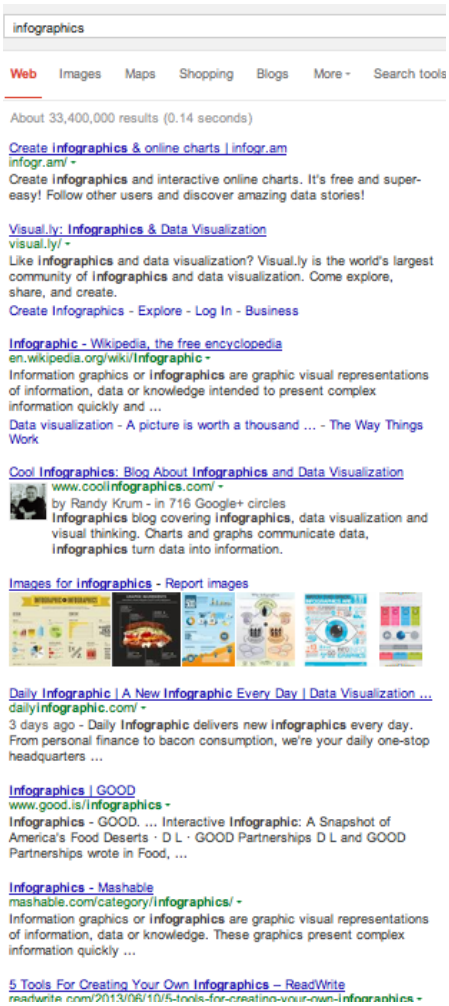

Figura 2

www.google.com. Search for the term Infographic.

Still we cannot invalidate that:

- The dynamics of classification, connection and relation to data are essential to the caption of content and meaning. The logic to acquire knowledge is not necessarily altered, but the means available are.

- Producers and Users become active pieces in the "management and creation of new knowledge: they classify, connect, comment, correct, edit" (QUAGGIOTTO, 2008). We can go further and add that they store and archive, since the human condition has a latent need to register and store diverse types of data for posterity.

2.1. DEFINITION

Following what is stated above, archives can be considered "a place to systematically record, sort and manage documents, images and media for permanent preservation" (SCHULLER, 2009). This methodical and professional information retrieval is usually performed by a group, society or nation and often influenced by "economic and political interests, and presented as a social act in our changing society"(SCHULLER, 2009).

In the interests of preserving contents and data over time, there are currently several archives involved in digitizing their information. Governments have released their budget decisions online, as is the case of Data.Gov.uk in the United Kingdom (Fig. 3).

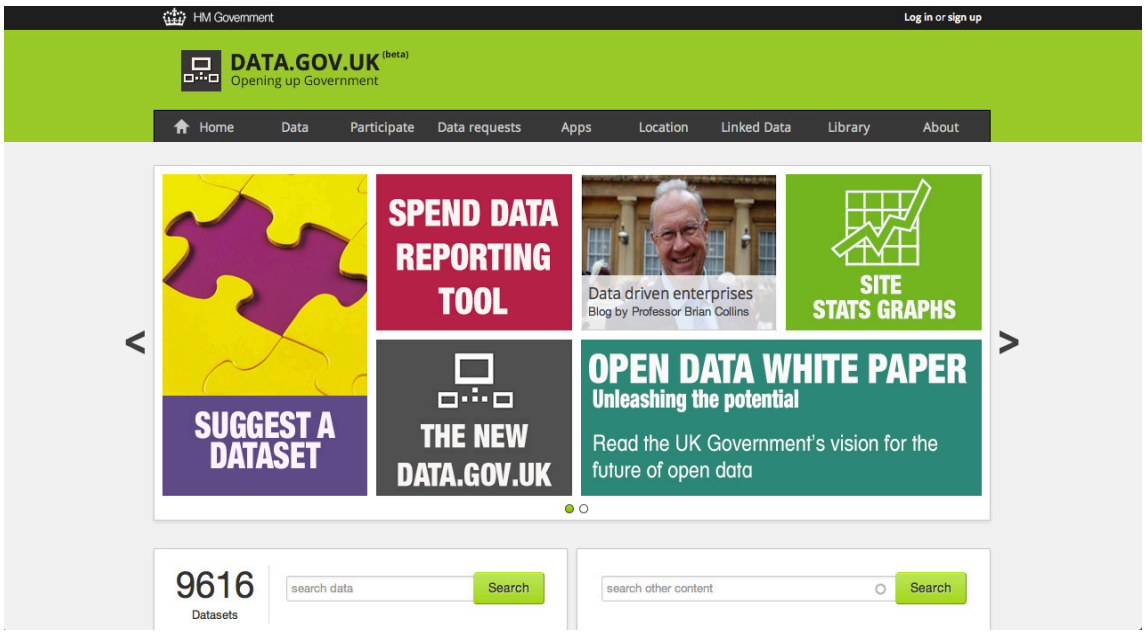

***Figura 3** - www.data.gov.uk. Website that presents UK's government budget decisions.*

These online Databases and Archives allow access and reveal our need to preserve data, but it is usually presented in the form of text and/or datasets[2]. Again, data is always present, but reading and translating what is given constitutes a difficulty. They are normally accessible only to experts who know how to transform and interpret.

It is necessary to create languages that translate it into more readable formats. In that respect, the interface plays a vital role.

3. INTERFACE

Although usually linked to computer science, the term interface can be seen as much more, as the ground base of the design process. Interface is not seen as a material object, but "the dimension of interaction between the body, tool and purposed action." (BONSIEPE, 1999:29)

It allows data to be transformed into information, and reflect the need for understanding and connection by the user. The design of the interface "reveals the character of objects as tools and the information contained in data." (BONSIEPE, 1999: 29).

4. INFORMATION VISUALIZATION

It is essential that new models appear.

It is common to hear that we live in a visual culture, and received our information from images, due to a long and steady textual heritage. It is not common to see it taken as a form of literacy, in other words, information conveyed "through images as well as texts and numbers" (ELKINS, 2008).

Information Design represents visual data with the intent to "communicate, document and preserve knowledge. It deals with making entire sets of facts and their interrelations comprehensible, with the objective of creating transparency and eliminating uncertainty" (SCHULLER, 2009).

The information visualization is a visible response, a new medium and "new scale that is introduced into our affairs by each extension of ourselves, or by any new technology" (MCLUHAN, 2001).

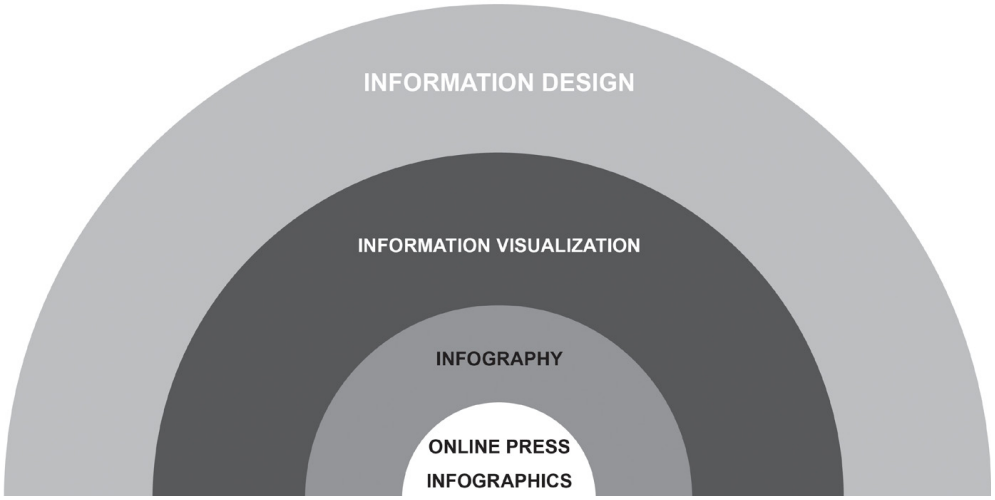

Figura 4 - *Dynamic relation between Information Design and Infographics for online news. Adapted from Alberto Cairo (2008).*

The fields of information and infography (Fig. 4) constitute a multidisciplinary aggregation[3] and a growing discipline. The power of infography is to transform data into knowledge and to access it visually.

5. ONLINE PRESS INFOGRAPHICS

So how can archives prevail in the context of infographics? It is assumed that they do so by becoming visual. The notion of archive that is proposed here is compatible with Cairo's vision (2008) of an analytical conception[4] of information stating that, an infographic is based on the revelation of complex data through visual structures. In comparison (Table 1) we can perceive how archives and Infographics relate to each other.

Archives	**Online Press Infographics**
Historical	Historical
Sociological	Sociological
Political	Political
Information	Information
Recognize Value of Content	Recognize Value of Content
	Complex data through visual structures (CAIRO, 2008)
	Tool of interaction and exploration (CAIRO, 2008)
	Hidden realities become visible

Tabela 1 - *Comparison between Archive and Online Press Infographics.*

5.1. AIM AND EXPECTED RESULTS

News infographics is assumed, not as a tendency to degrade or merely decorate data, but as a guaranty of a "structure so that patterns and hidden realities become visible" (CAIRO, 2008).

Pattern design, in this respect, should not be seen as a finite system, but a living structure in constant evolution, that reflects on the "organization of graphic elements according to the relation between data and function" (BERTIN, 2011). This search, widely disseminated, is expressed by Chaomei Chen, who indicates that a "the taxonomy of information visualization is needed so that designers can select appropriate techniques to meet given requirements" (CHEN, 2006).

All these points connect on our proposed analysis. It has allowed to link specific types of infographics, specifically those with recurrence and online presence. It deals one elements that potentially increases dynamic and allows it to be linked to archives. That element is TIME. Recurrent news such as Elections, Olympic Games, Nobel Prizes, are presented in many forms of online infographics, with scarce continuity. They are made as isolated pieces of work, and past information within a topic is not reactivated and availed. A continuum of information is lost.

5.2. PÚBLICO ONLINE: P3

A collaboration has begun, with P3, an online newspaper oriented to a 18-35 year old demographics, and we propose to build a prototype. To create dynamic infographics with a lexicon of visual models that can be called upon when recurrent news are needed.

Take the examples given below (Fig. 5-8) focusing on elections. Past information is considered but the structure is not conceived for continuity. Our aim is to discuss possibilities of retrieval within topics and reveal past data, thus connecting the presented definition of visual archives as a new path for online newspaper infographics.

5.3. CASE STUDIES

The election of Barack Obama in 2008 and 2012 are examples of how information can be retrieved and adapted. If we look close, there are more correlations in 2008 (Fig. 5, 6). The map vision can compare results from 1992 onwards. In 2012 (Fig. 7) that ceases to occur; the map presents the 2012 outcome and a 2008 fluctuation

analyses (Fig. 8). There is no similar visual comparison of results. The overall visual structure is similar on both, a positive point, but part of the information available in 2008, did not meet continuity.

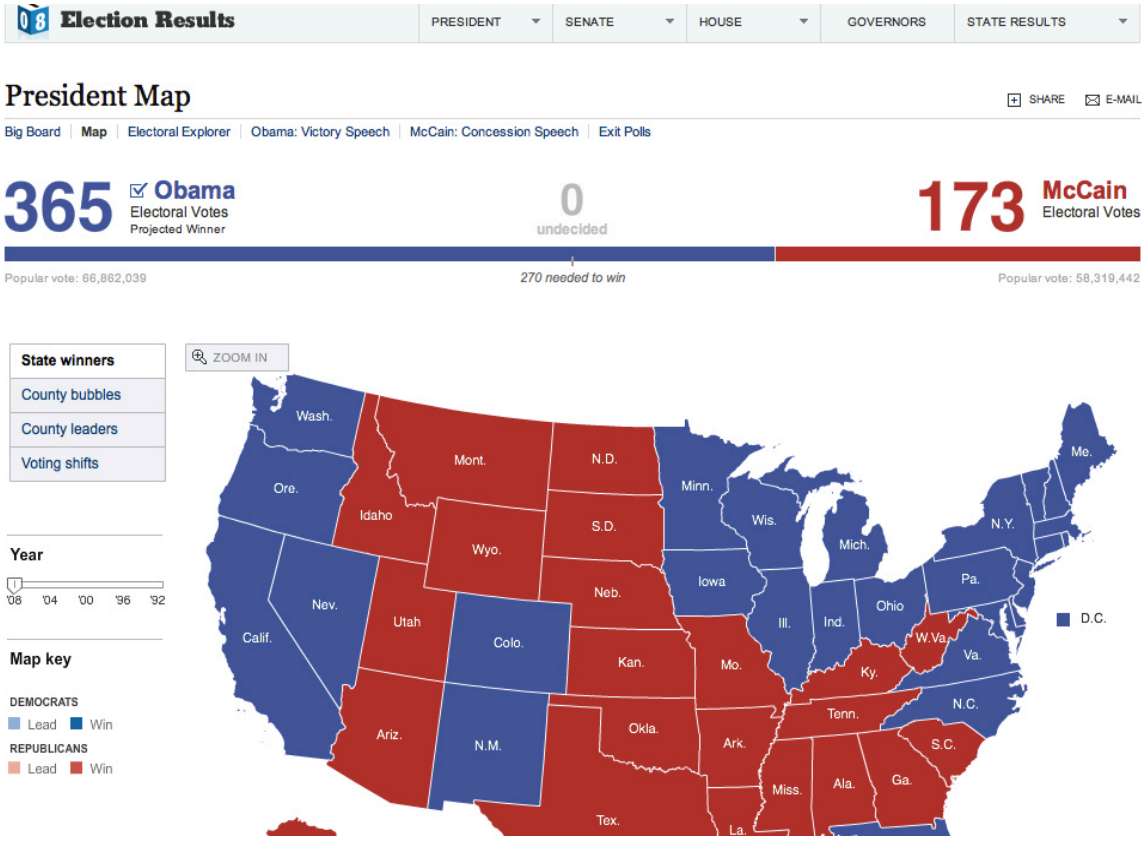

Figura 5 - *New York Times. Presidential results of the 2008 Elections in the United States.*

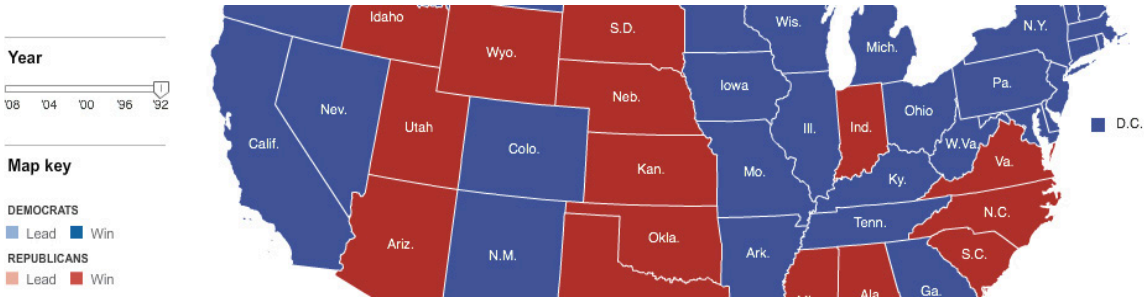

Figura 6 - *Detail.*

Figura 7 - *New York Times. Presidential results of the 2012 Elections in the United States.*

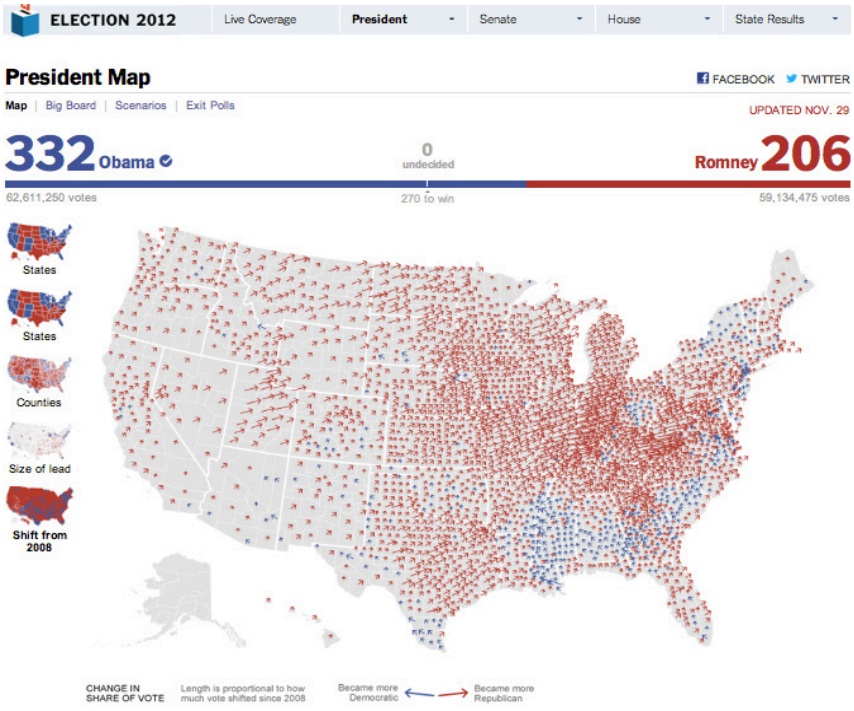

Figura 8 - *New York Times. Change in votes from 2008 to 2012 Presidential Elections in the United States.*

The design and information quality presented in the case studies are not at stake. They are reliable infographic visions of the reality of that moment. They are taken into analyses for being recurrent news that offer the possibility of a new approach on the continuity of design and information. They present an aspect proposed with a visual lexicon: Continuity. With any given design object, continuity and familiarity with graphic elements allow quick understanding of the information conveyed.

6. CONCLUSION

The research implies that it is necessary to create visual devices that deal with, on one hand, the visual code. On the other, that can retrieve and optimize the creation of visual options with dynamic infographics that present visual archive cohesion and consistency over time. This, we expect, is the new role for design and infographics with relation to visual archives.

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NOTES

1. nformation Overload seen as an acceleration of technology that results in a change in the social fabric.
2. Datasets are present in many newspapers. The Guardian not only presents infographics but also releases its datasets.
3. Combines disciplines such as visual perception, color theory, psychology, sociology, engineering, design, among others.
4. nalytical conception is proposed as a characteristic that augments the cognitive ability of readers by making evident what has been hidden, being it, a chaotic set of data, a list of numbers or an object whose structure is excessively complex.