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From the digitalization of culture to digital culture

Digital culture as a converging paradigm for technology and culture: Challenges for the culture sector

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Abstract

Digital culture is a new and complex concept. Digital advances are increasingly interacting with the world of culture and the arts, leading to a convergence of technologies, media and information and shaping communication modes. The new possibilities offered by the digital technologies—namely, global connectivity and the emergence of new networks—challenge our traditional understanding of culture and make it necessary for us to take on the board the concept of a digital culture. This article views digital culture as a new social system that determines experiences and opportunities for the citizens of today. Digital technologies and the networked environment have introduced new practices, opportunities and threats, and the culture sector needs to find appropriate ways for operating in this new reality.

Keywords

digital culture, information and communication technologies (ICTs), digital networks, convergence, cultural practices

La cultura digital, un paradigma convergent on s'uneixen la tecnologia i la cultura: reptes per al sector cultural

Resum

La cultura digital és una noció nova i complexa. Les tendències digitals d'avui s'han entremesclat cada cop més amb el món de la cultura i les arts, implicant diferents aspectes de convergència de les tecnologies culturals, de mitjans i de la informació, i influïnt noves formes de comunicació. Les noves possibilitats creades per les tecnologies digitals—la connectivitat global i l'aparició de noves xarxes—desafien la nostra manera tradicional d'entendre la cultura i l'estenen també a la cultura digital. Aquest article observa la cultura digital com una nova ecologia social que condiona les experiències i les oportunitats dels ciutadans d'avui, on les tecnologies digitals i l'entorn de les xarxes digitals han portat noves pràctiques, possibilitats i amenaces, en les quals el sector cultural ha de trobar els mitjans adequats per treballar.

Paraules clau

cultura digital, tecnologies de la informació i de la comunicació (TIC), xarxes digitals, convergència, pràctiques culturals



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Digital culture as a converging paradigm for technology...

Culture and communication in the information age

Today's society, often referred to as the information age, is marked by the rapid development of communication and information resources. The extent of the change is reflected in how we refer to 'revolution' rather than to 'evolution'. Buttressed by the information and communications technologies (ICTs) and the digital network infrastructure, globalization—the integration of trade, investment and financial markets in modern, increasingly interdependent societies—is based on a model of development that is based on the industrial economy. This economic model of the nineteenth and twentieth centuries focused on information and cultural production, and it relied on communications systems (telephone and telegraph, mass-circulation press, radio and TV, internet, etc), which enabled large-scale communications and information distribution that transcended the immediate local community.¹ To date, economic globalization processes have not had an impact in terms of a fairer and more equitable development of countries and regions, and rapid technological development has not yet led to any reduction in social inequalities or in the gap between rich and poor.² Hence, the discussion about the kind of society we are creating remains. Is it a democratic, pluralistic and inclusive 'knowledge society'? Or is it a commercialized 'information society' where information is a commodity? The main difference between the two is marked by the position occupied by information, knowledge and culture. Does information and knowledge consist of a common web of cultural resources created jointly and therefore to be shared? Or is it a primary commodity to be privately owned and controlled? (Uzelac, 2008).

Culture, communication and information are relatively related concepts. Don Foresta emphasizes two definitions of culture offered by Webster's dictionary (Foresta *et al.*, 1995, p.10). The first defines culture as "the integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge to succeeding generations". And the second defines culture as "the customary beliefs, social forms and material traits of a racial, religious, or social group". According to Foresta, the conceptual difference between the two definitions is that the former deals with knowledge and how it is transmitted, whereas the second refers to community-agreed values and norms that govern people's behaviour and relationships. New knowledge can influence traditional beliefs, and the extent of this influence depends on the communication systems available and in use and

on the content of these forms of communication (Foresta *et al.*, 1995, p.10).

We often think of information and communication in a technical and instrumental manner—as data and data transmission. However, information and communication are also social phenomena. Several authors describe information content as a set of information and cultural products, understanding the concept of communication in a sense broader than that of the mere transfer of messages and often emphasizing that communication refers to "a process of sharing, making common, or creating a community" (Hamelink, 2003, p.155) or to the maintenance of society over time through the representation of shared beliefs (Carey, 1992). According to Pasquali (2003, p. 198), the words *communication* and *information* always refer to the essence of community and human relationships. For Hamelink (2003, p. 124) information content is a set of cultural products, with information forming part of the cultural fabric of a society. An important aspect of this dimension is that of sharing knowledge and protecting cultural identity. The centrality of information to culture is evident in the characteristics of information, which Benkler (2006, p.36.) described as a 'non-rival good', meaning that its "consumption by one person does not diminish its availability for use by any other person". In other words, in its own production process, information is both input and output. Information is not used up but preserved in communications with others. These characteristics lead us to understand culture and information as goods that are inherently public. Like language, the expression of culture is a sign system for communication, in which people, through common cultural codes, build their own understanding of their environment and create shared meanings. Thus, when we refer to culture, we implicitly refer to communication. As Foresta says, "culture is a memory, collective memory, dependent on communication for its creation, extension, evolution and preservation" (Foresta *et al.*, 1995, p. 19).

Digital culture: between culture and technology

Cultural knowledge has always been communicated and therefore preserved by our cultural communication structures. The technologies available have always been an important element in enabling and facilitating the processes of creating, sharing and preserving our cultural memory. "Without recording technologies of some kind (tablets, paper, wax, movable print, analogue and digital electronics and so forth), the cultures we all inhabit would not exist"

1. This industrial information economy is based on science, software, financial services, accountancy and the media, film and music sectors (Benkler, 2006).
2. Income differences worldwide are growing and this affects the opportunities available to people in different societies. According to Boyd-Barret (2004), in 1997, the richest 20% of the world population accounted for 86% of world GDP, 82% of exports, 68% of foreign direct investment, 74% of telephone lines and 91% of internet users; in contrast, the poorest 20% of the world population represented 1% of world GDP, 1% of exports, 1% of foreign direct investment, 1.5% of telephone lines and less than 1% of internet users. A decade on, no major changes have been detected in these trends.



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(Lister *et al.*, 2009). The impact of the communication technologies on culture is significant because the way we use them can effect changes in the very essence of our cultural and communication models. For this reason, technologies associated with information and communication tools cannot be considered as passive instruments, but as interactive systems that radically change our cognitive abilities (Dasca, 2006). We distinguish cultural epochs according to the communication technology used. In *oral culture*, knowledge transfer could only occur in direct communication. In *written culture* certain types of knowledge or the memory of a particular person could be preserved and written messages could be sent through space and be recorded (and preserved) for the future. The *press and broadcasting culture* enabled the mass distribution of messages from centralized sources. Nowadays we can refer to concepts such as *digital culture*, internet and its participatory nature, convergence, ambient intelligence, etc.

Although the idea that technology has an impact on different aspects of our culture may seem oversimplified and highly deterministic, the premise is not entirely incorrect. Technology does not affect society in a linear way; rather, in combination with many other elements, it creates conditions of possibility that suggest rather than determine possible futures (Hawk *et al.*, 2008). It could be said that all technologies intervene in the human environment and modify it to some extent, thereby changing, more or less radically, the conditions of existence of different cultures and permitting certain practices to be rendered obsolete while placing other previously impossible practices within our reach. The changes that have occurred in modern societies are partly related to the introduction of ICTs in our lives. We live entirely in a digital environment and digital technologies are present in all aspects of our lives. We use digital technologies, in fact, almost unconsciously. They are present in all areas of business and underlie financial transactions. They are also present in the media and cultural production, often distributed digitally. Charlie Gere suggests that the sheer extent of the presence of digital technology in our lives indicates the existence of a digital culture. Gere states that digitization can be considered a marker of culture because it includes artifacts and systems of meaning and communication which clearly demarcate contemporary lifestyles (Gere, 2002, p.12). This would indicate that technology is not on the margins of an analysis of culture but is, in fact, central. Increasingly complex technological environments are beginning to shape a dialogue with all cultural production actors. The complex technologies that we use today cannot be considered as mere

tools that assist us in overcoming certain limitations, but must be understood as all-encompassing environments.

Today, virtual space forms part of our experience and also of our 'geography'. It has introduced a number of new concepts and has displaced what were previously stable boundaries—and we have had no choice but to learn to deal with the new reality. We have learned what the new media are (Manovich, 2001) and what it means to be virtual (Lévy, 2001). *Digital culture*, *virtual culture*, *electronic culture*, etc are relatively new terms, yet they are now widely used in the scientific and popular literature. Researchers from different disciplines have examined the impact of these new media on different social aspects of the virtual and real spheres. Although the real and virtual spheres are interrelated, because both frame our experience, they tend to be clearly defined. However, as digital technologies continue to move towards miniaturization and to incorporate ICT-based elements in our environment,³ the boundaries are becoming less clear. Another change is also taking place: our experience with digital technologies is shifting from the virtual foreground to a material background, leading virtuality to take on the meaning of a tacit aspect of material reality (Hawk *et al.*, 2008). What this means is that reality too has been transformed into an information space and, in this space, material objects have become media objects, given that they can potentially be information that flows through global networks. Terms such as *ambient intelligence*, *ubiquitous computing* and the *internet of things* have recently entered discussions on digital culture, indicating that culture and digital culture evolve and increasingly interact as they frame our experiences, which are increasingly close to one other. In these new conditions imposed by convergence processes, the culture sector is seeking a new *modus operandi* which, like digital literacy culture, will enable changes to be foregrounded.

Convergence, connectedness and user status: challenges for the culture sector

Digital technologies, in combination with the internet-distributed network infrastructure, have led to extensive changes in all aspects of our lives and work.⁴ The moderate price of computers and network connections has led to a reduction in production and distribution costs and to the availability of new communication and delivery channels. Virtual space is defined by different charac-

3. Global positioning systems, radio frequency identification technologies and mobile telephones are just some examples of this change, whereby a layer of information is inserted in our material world.

4. The rapid growth of the internet in terms of users and the availability of information and services indicates the importance of the activities that unfold in the virtual domain. According to www.internetworldstats.com (data accessed: 30 June 2009), there are around 1,670 million internet users in the world, equivalent to around 25% of the world population and user growth for the period 2000-2009 was 362.3%. Such rapid growth implies very rapid changes and it is no easy matter to evaluate past trends or predict future ones.



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teristics from real space and has fewer limitations. Digitization has facilitated the process of media convergence. Once the (previously separate) media, telecommunications and information technology industries could, through a single digital technology, do things that previously needed different analogue tools, the constraints they faced in their activities in the real world changed. What this means is that convergence is more than just a change in technology, given that it affects the changes that shape relationships in society. Jenkins (2006, p. 17) points to the fact that “convergence alters relationships between existing technologies, industries, markets, genres and audiences”. It alters the logic by which media industries operate and also the logic by which media consumers process news and entertainment.

Convergence has facilitated a number of different economic and social processes. Having removed the physical boundaries between different media in the digital environment, cultural and media industries have ensured a steady flow of content between different platforms and in such a way that the fusion makes sense economically. There is a growing trend towards concentration of media ownership in today’s society. Cultural and media industries exert a powerful influence in many public spheres and this tends to shape popular reality —although with a “deliberate focus to sell audiences as target demographics to advertisers” according to Deuze (2007). The digital environment, moreover, enables or facilitates user participation in the digital sphere. According to Deuze (2007, p. 247), “the same communication technologies that enable interactivity and participation are wielded to foster the entrenchment and growth of a global corporate media system that can be said to be anything but transparent, interactive or participatory”. This situation can also be interpreted in the reverse sense: digital networks provide alternative platforms for communication and this changes the position of the traditional mass media and moderates their power. With the vast amount of information available nowadays on the internet, the interested user can locate information in Google on any number of perspectives on any subject. Such information comes from many sources, including traditional media, the commercial sector, NGOs, the research community, cultural and educational sectors, etc.

This diversity of information and perspectives is a product of what Benkler (2006) calls the *networked information economy*, in which production and exchange by groups play an important role. Benkler suggests that one of the most important implications for the networked information economy is the change experienced in going from a public sphere with mass communication to a networked public sphere where many more people can communicate their views and their comments with others. This implies an improvement in the practical skills of people operating in the digital networked environment. Anyone can participate and express criticisms and concerns in active discussions, develop and publish information in their own blogs and websites and contribute to large-scale group production projects like Wikipedia. This situation

also changes the position of the culture sector. In the explosion of information available in the digital networked environment and the communications that take place there, culture information can be obtained from many different sources (amateur or expert) and cultural organizations have found themselves in the situation of having to compete for the attention of users and having to take into account changes in their habits and expectations.

Users have begun to use the ready-to-use tools available to them in different ways and this has led to new practices. The digital culture is a participatory culture in which users not only consume information but also contribute information in different ways. This change has recently become especially visible in web 2.0 and social applications. Blogs, wikis, social networking sites, photo- and video-sharing websites and peer-to-peer networking services are very popular examples of this trend. These platforms offer powerful participatory networking spaces for (re)constructing social life, with social, political and cultural motivations taking precedence over others based on the market. According to Benkler, in the networked information economy, community-based rather than market-based group production plays a greater role than in the industrial information economy; the conditions for producing information are vast and enable a new way of organizing production that is “radically decentralized, collaborative, and nonproprietary”, based as it is on “sharing resources and outputs among widely distributed, loosely connected individuals who cooperate with each other without relying on either market signals or managerial commands” (Benkler, 2006, p.60).

This social production represents a new source of competition for cultural industries in terms of the creation of information goods. It is important for the culture sector to understand the new context in which users are both competitors and co-creators of cultural information. Full understanding of the opportunities presented by social production would contribute to the establishment of mutually reinforcing relationships in the culture sector, given that social production is creating new sources of inputs, new expectations, habits and tastes and new production opportunities. As Benkler argues, consumers are users and, as such, they are more active and productive than consumers in the industrial information economy (Benkler, 2006, p.126). In this context, culture professionals are in a situation in which they more or less share control with users, but must find appropriate ways to adapt their working practices and redefine their activities.

Digital networks: communication and cooperation tools for culture professionals

We all work in networked conditions nowadays, we all use the internet and we are all members of cultural networks. The current



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internet culture is a dominant culture and social mobilization is easily achieved using network tools. Artists, researchers and culture professionals are drawn to the paradigm of networks, but we need to ask what happens when networks become the driving force behind our daily activities. What collaboration tools are appropriate for use by the culture sector? Can networks provide a space for sustainable knowledge exchange and production?

The impact of the digital technologies has been such that it has had a transforming effect on all aspects of culture, both online and offline. The landscape is constantly changing and it has to be clear what we want to do and for whom. In many respects, the culture sector is still at the outset of a journey in which it will learn to exploit and use these technologies. Meanwhile, it cannot afford to be left on the margins if it wants to keep in touch with its users. Paul Graham, in his article on post-medium publishing,⁵ comments on the changes that have led to the development of a digital culture, stating: "When you see something that's taking advantage of new technology to give people something they want that they couldn't have before, you're probably looking at a winner. And when you see something that's merely reacting to new technology in an attempt to preserve some existing source of revenue, you're probably looking at a loser". For this reason, it is important for the culture sector to understand both the potential of networks and user motivations and interests.

The culture sector safeguards and transmits our cultural memory recorded in different forms (as literature, art, music, etc). To keep this memory alive and ensure that it is not forgotten, it must be communicated to the public and the public should be able to take this content and use the associated references in communication and creation processes. A fundamental aspect of our cultural memory is access to culture. We need to be aware that access routes and participation modes are constantly changing and that the culture sector needs to be able to take advantage of the new opportunities offered by the digital networks. While traditional cultural institutions are important in providing access to cultural services, we need to recognize and support new ways of approaching the public participating in cultural experiences in an online environment (and mainly outside the virtual resources offered by the culture sector). It is clear that new practices are emerging from among the possibilities offered by digital networks. The culture sector cannot ignore the changes that are taking place. Users have changed their habits, expectations and practices; so too must cultural institutions adapt to networked operations.

Exploiting the digital network environment to reach the public does not mean merely announcing cultural events online, but improving cultural experiences outside the network and disseminating cultural content through the various formats used in the

internet. An innovative example of how cultural heritage institutions have placed their photographic collections in the virtual domain is The Commons,⁶ launched on the Flickr photo-sharing site in 2008. By allowing people to interact with and add value to collections, people and experiences are being linked up through cultural content available online. Enabling individuals to cross the threshold of a library or institution gives them the right to access to The Commons on Flickr as they see fit: they can browse content, add tags and comments, restore photos and share and discuss favourite content over other networks. Wealth, provided it is not locked away in the archives of cultural institutions, is generated by enhancing the visibility of original collections.

It may not seem such a big deal for a cultural institution to make its photographic collections available in a photo-sharing site and to allow users to add tags or comments and to share content. Nonetheless, many cultural institutions still face difficulties in allowing users to interact with their collections and share their experiences with others. Sharism has emerged as a new phenomenon that responds to the new opportunities offered by the networked environment. Social networking combined with mobile technologies has had a major impact on how information is exchanged and how knowledge is constructed. Cultural content needs to be part of this process if it is to adapt to the reality described by Foresta (cited above): "Culture is a memory, collective memory, dependent on communication for its creation, extension, evolution and preservation". The culture sector needs to transfer content to where people are online—whether in social networking sites, photo- and video-sharing sites, etc—and to seize the opportunities arising in the context of digital networks. This does not imply abandoning the institutional website, but extending reach by using networks and recognizing that the impact potential of an online network is greater than the impact of any single node in a network (Barabási, 2003). Cultural institutions should not wait for users to visit institutional websites but should attract the user's attention in the sites they already visit.

Conclusion

Digital networks are posing new challenges, by enabling easy information exchange and cooperation and by obliging compliance with more compressed control systems for accessing information and cultural goods. New practices are emerging in the digital context and today's digital culture not only frames our experience of the world around us but also gives us a complex set of tools with which to organize new ways for inter-relating information and local and global culture; in other words, technol-

5. See P. Graham (2009).

6. See: <www.flickr.com/commons/>.



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ogy not only provides tools but also defines the environment in which we live. Ignoring this context switch is likely to distance the culture sector from users who continue to break new ground in terms of practices, expectations and habits. Digital networks have created conditions of possibility which suggests possible futures. The future of cultural development will be determined by the purpose for which digital culture is used: either to facilitate intercultural communication and create knowledge resources to which everyone can contribute and exchange, or to implement market-based and for-profit activities that tighten control over knowledge and information. The new context offers new opportunities for culture while providing users with the opportunity to become active citizens rather than consumers.

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