AC/E DIGITAL CULTURE ANNUAL REPORT 2016

Smart Culture: Impact of the Internet on Artistic Creation

Focus: Use of New Digital Technologies at Cultural Festivals

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AC/E

Spain's Public Agency for Cultural Action
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'A more open, egalitarian, participatory, and sustainable culture is profoundly worth championing, but technology alone cannot bring it into being. Left to race along its current course, the new order will come increasingly to resemble the old, and may end up worse in many ways. But the future has not been decided.'

Astra Taylor, *The People's Platform: Taking Back Power and Culture in the Digital Age* (Metropolitan Books, 2014)

Following the excellent reception of the first two editions of the *AC/E Digital Culture Annual Report* (2014 and 2015) – more than 5,000 copies of each have been distributed over the past two years – we are pleased to share with culture sector professionals the third edition, which sets out to analyse the impact of new technologies on artistic creation and their use at cultural festivals.

AC/E, a public agency whose purpose is to facilitate the promotion, development and internationalisation of Spain's creative and culture sector, has teamed up with Dosdoce.com, a private organisation specialised in studies on adapting the sector to the digital environment, to analyse in the three editions of the report the main technological trends that cultural managers will need to bear in mind in the coming years in order to have a better understanding of the impact of new technologies on their culture organisations.

To achieve this aim, the broad-ranging content of the third edition of the report has been divided into two main sections to make it easier to read for the different audiences at which it is aimed. 'Smart Culture' is the overarching theme established by the Advisory Committee of the *AC/E Digital Culture Annual Report 2016* as a basis for choosing the six articles that make up the first part of this year's edition. Just as the first report's Focus dealt with the impact of the Internet on the performing arts (theatre, opera, dance, ballet, etc.) and that of the second edition analysed the use of new technologies in the world of museums, for this third edition it conducts a thorough analysis of the use of new technologies at some 50 Spanish and foreign cultural festivals.

Both sections of the *AC/E Annual Report* speak of a hybrid realm halfway between technology and art; of blending between the physical and digital words; of vanishing boundaries between industries; and of the use of smart analyses and algorithms to give value and meaning to the often too much but never enough data. The chosen topics explore the pathways of the new collaborative economy; analyse its impact on artistic creation; examine the new space for interaction between people, machines and industries; and explain the changes that have taken place in markets and in how artworks are produced and sold.

One of the cross-cutting themes of this year's report is the use of smart devices in artistic creation. The Internet of Things is going to pervade many aspects of our lives, and culture is no exception. As well as benefitting industrial processes, it has begun to yield visible results in the field of artistic creation. An example is the wearable musical gloves mentioned by Pepe Zapata in his article on the impact of the Internet on the performing arts, which allow musicians to interact with computers through gestures. Should we envisage a robot audience? he wonders.

Other themes enthusiastically analysed in this year's report are the maturity of 3D printing, robotics, drones, augmented reality, new interfaces and the popularity of virtual reality devices. Their use is illustrated with many examples by Lara Sánchez Coterón in her in-depth analysis of new practices in videogames and by Montecarlo in his study on the new ways of telling audiovisual stories in the digital age.

But it is not all technology. The report also deals with issues such as the digital access gap, an issue explored in Iván Martínez's article on the emergence of Wikipedia. Mariana Santos takes a different approach to a different rift – the digital gender gap – in her article on the impact of the Internet on artistic creation and introduces readers to Chicas Poderosas, the community she heads with the aim of closing it.

The economy of subscription is, as stated earlier, another theme that cuts across many of the articles in the report. This phenomenon is not alien to cultural enterprises, which, in some fields

such as content distribution, have pioneered the concept of culture as a service, headed by digital startups such as Spotify and Netflix. In his study on the art market, Pau Waelder shows us similar formulas adopted by enterprises that currently offer new forms of collecting art on digital picture frames and define themselves as the iTunes and Spotifys of art collecting.

Questions, answers and unanswered questions that readers of this year's report will find

The authors of this year's annual report pose various questions about the fascinating future that digital culture holds in store:

Who is the stage creator nowadays?

One of the most futuristic articles of the report, Pepe Zapata's, introduces readers to a world of automatons, drones and robots on stage that leads the author to ask: who is the spectator now? This shift in roles is illustrated with many examples of the new interactions between spectator and spectacle that have been made possible by smartphones, drones, robots and all kinds of hybrid realities.

'How the Performing Arts are Changing in the Digital Age' stresses the blends of digital and real, and off and on, and speaks of the fading of the boundaries between human, machine and nature. It provides many examples such as the Body project which, to quote the author, 'experiments with biointeraction between body and technology with the aid of light sensors that respond to the dancer's biological functions'.

This author ends by analysing the digital processes needed to support these new models on the stage, which involve new forms of authorship, and calls for reflection on the possible uses of digital technology in the production of the performing arts to achieve more spectacular results and broader experiences for a lower cost by analysing phenomena such as DIY and maker culture.

How is digital art marketed, made profitable and disseminated in the subscription economy?

Pau Waelder's article 'The Art Market in the Age of Access' begins with a survey of the history of digital collecting, which began to catch on in a big way in the late 2010s. It examines the new ways of collecting, exhibiting and selling digital art in the new economy; digital editions, market platforms for digital art and the contradictions that can arise over the consideration of the artwork as a unique object.

The analysis provides guidance on cloud collecting and the implications of exhibiting art through streaming. It examines the various connected canvas technologies that allow us to consume art on demand and digital art. A survey based on a number direct questions put to a group of artists concludes that most feel that the art market does not have a significant impact on their work. This article clearly advocates what the author calls the third art market and the need to accept media art as a specific category.

Where are the limits in videogame design?

Lara Sánchez Coterón takes a twofold approach in 'Videogame Design and Disruptive Praxis' in order to analyse the influence of videogames and the meta-products that have emerged in other arts too, such as painting, as well as the most innovative digital praxis for developing new games that leads them to become artworks themselves.

Her detailed survey of the history and models of development and evolution of videogames includes self-hacking, mods and countergaming and explains how videogames are redefining interaction with users through the use of sensors

and smart devices of the non-spectator as one of the elements of the game – by establishing a new space for creation with 'games that are more contingent and open to players' interpretation of them', to quote the author. It makes interesting reading for anyone wishing to understand the continuous reinvention of an art that was born digital and is growing digitally day by day.

How to design a new human-centred and smart style of journalism?

Writing from a very personal approach, in 'The Impact of the Internet on Cultural Creation', Mariana Santos, director of interactive at Fusion, analyses the changes involved in designing a new type of journalism and the role of new journalists. This broad perspective spans the use of new technologies for analysing the mood of social media users, the process of building flows and clusters from data, and techniques for interactive visualisations.

The author emphasises the need to apply human-centred design techniques – design thinking – to give rise to a new style of socially committed journalism that encourages outsiders to the profession, such as lawyers, NGOs, activists and digital thinkers to analyse and tackle new problems, and cites as an example an interesting experience of empowerment and networking among young women journalists called Chicas Poderosas that aims to close the gender gap in Latin America – an initiative that is rapidly spreading.

How to manage crowdsourcing in the evolution of digital encyclopaedic knowledge

Fifteen years of collective history are analysed by Iván Martínez in 'The Wikipedia Phenomenon in Today's Society: Fifteen Years On? How do they manage to maintain a resource that services a whopping 17 million pages every month? How is the volunteer work organised? Can digital grow old? Can we speak of a crisis in Wikipedia? What is an *editatona*? What organisations regulate the work and how have they evolved?

These fascinating questions are asked in an article on crowdsourcing and the challenges of organising and regulating collaborative work. The article ends with an important question on the future of the encyclopaedia, which no doubt needs to make a huge effort to adapt to more recent technological challenges, such as the prevalence of mobile Internet access, and to close the digital access gap between the most underprivileged parts of the world, as well as the gender gap that exists today, as only one out of every ten Wikipedians is a woman.

What are the languages and formats for creating new transmedia audiovisual and how is it produced and funded?

Montecarlo begins his article on 'Data, Interfaces & Storytelling: Audiovisual in the Digital Age' with the battle cry that 'Everything is data'. He speaks of augmented reality and how it adds layers to physical reality, virtual reality, 3D and the role of new interfaces in building recent audiovisual stories, the dystopic use of these technologies and the impact of new digital supports and changes in consumption habits. He also examines technologies such as video-mapping, 360-degree video, MMROPGs and interactive audiovisual to help readers understand the production of new experiences in which there is no distance between spectator and work.

Web series, YouTubers, online micro stories and webdocs are some of the new storytelling formats transformed by audiences into memes and fan fictions.

Focus 2016: impact on artistic creation

As stated at the beginning of this introduction, just as the Focus section of the first year's report examined the impact of the Internet on the world of the performing arts (theatre, opera, dance, ballet, etc.), and the second edition analysed the use of new technologies in the museum world, in this third edition the Focus thoroughly analyses the use of new technologies at cultural festivals.

In this section readers will find a broad description of all kinds of new technologies employed at more than 50 festivals, both in Spain and abroad. Literary, music, performing arts or multi-genre festivals can offer insights into how to apply these technologies in day-to-day tasks or at specific times. These ideas can provide practical tools for festivals, artistic events or even online action and enhance visitor experience and communications. For example, beacons can be used indoors to detect Bluetooth-enabled devices within their range and also creatively to develop a new type of music composition. They can also improve our understanding of how cultural spaces are used, by analysing how people move around crowded festivals, such as the creativity and advertising fair Cannes Lions International Festival, the yearly SXSW in Austin, Coachella Music and Bonnaroo Festival. They have all devised highly original ways of using them – for example to help friends who have become separated at these macro-events find each other.

There are no instruction manuals or route maps explaining how to use all aspects of the tools or even which tools are best for each festival, but there are specific examples to go on. In a sense, this opens up a whole field for discovering new paths; we all have the means and capability to experiment and be creative with these new tools, mercilessly – but intelligently and pragmatically – combining old formulas and methods such as public relations and face-to-face with the latest wearables. For, as we are seeing throughout the post-digital wave, the revolution does not consist in going in for the newest of the new but rather incorporating it, like parts of a mechanism, into others that might well be analogue.

We hope that the publication of this new edition of the Focus of the AC/E Digital Culture Annual Report succeeds in offering managers of cultural festivals a calmer and fuller overview of the developments in the new digital world, the challenges we face, and the many opportunities they bring.

Conclusion

Looking ahead to the future – for this report sets out not only to provide information on what is being done today but also to predict as far as possible what will be done in the coming years – this brief overview of digital technologies applied to culture in 2015 also points to the consolidation of many ideas related to concepts that have lain dormant for several years, such as artificial intelligence, machine learning and cognitive computing. Though it will be quite some time before we have machines as intelligent as humans, and it will take longer still for humanoids and robots to be as creative as humans... or maybe not.

In conclusion, 2016 looks set to be one of the most exciting technological moments of the past two decades in which the new digital acceleration technologies are going to have a particular impact on the cultural sector. Expectations are high and savvy digital disruptors have their digital knives well sharpened and ready to carve out a share of the market for themselves in all sectors, including culture.

The new digital technology stimulates our dream of achieving a shared goal or smart culture project that is explored in this edition and today

seems just around the corner: new interactions based on data science and the use of smart devices that 'hack' our senses; deconstructions of artworks tailored to our tastes; and extended cultural experiences – all these things are no longer expectation and fantasy but part of a new hybrid, interactive, shared and proactive digital cultural reality.

In one word, **smart**.

The AC/E Annual Report is intended as a reference work that can be consulted by cultural managers wishing to discover the advantages that new technologies can offer the world of culture. To facilitate their access and consultation, all the annual reports are published free of charge under a Creative Commons 'Attribution – Non Commercial – No Derivatives licence, which allows users to copy and distribute them in any medium provided that they give appropriate credit, do not use them for commercial purposes and do not modify them in any way.

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THE WIKIPEDIA PHENOMENON IN TODAY'S SOCIETY: FIFTEEN YEARS ON

Iván Martínez · @protoplasmakid

Iván Martínez (1983) studied history at the UNAM and is a journalist and Wikipedian. Since 2012, he has been president of Wikimedia México A.C., the local representative of the Wikimedia Foundation which owns Wikipedia. He was chief coordinator of the 11th international Wikimania conference held from 15 to 19 July 2015, and is a member of the foundation's Funds Dissemination Committee and a volunteer for Wikipedia in Spanish.

As a lecturer, he has given talks on free knowledge in seven Mexican states and at some 50 university, business and cultural institutions. He has taken part in international events related to the Wikimedia movement in France, Germany, Poland, Israel, China, Argentina, Chile and the United Kingdom, where he has delivered four lectures on his projects.

Since 2013 he has conducted the only Wikipedia-based radio show in the world: Moebius 909, broadcast by Ibero 90.9 FM, a public radio station of the Universidad Iberoamericana. He wrote for the FayerWayer, Código Espagueti and El Diario.es blogs. His opinions have been taken up by international media such as the South China Morning Herald, Radio Netherlands, Radio Amherst Massachusetts and Yorokobu and by the leading national television, radio and Internet media.

1. Wikipedia: the free Internet encyclopaedia.

Premises: daughter of free software and French encyclopaedists.

Nearly 15 years since it was created, Wikipedia, the self-styled *free encyclopaedia*, is a resource that serves 16 billion pages per month. Its self-regulated ecosystem, its editorial standards and its capacity to enlist nearly 75,000 volunteers[1] who extend and modify it daily is the subject of research, criticism and everyday comments in the main environments of cultural reproduction and transmission of knowledge: the family, the mass media and schools. It is one of the most dynamic, ambitious and collaborative Internet projects (Ortega: 2009).

The Wikipedia universe is a dense web of volunteers who exploit this diversity. It embraces a variety of trends, influences, motivations and opinions from all over the world and is following a steadily upward course. Nearly 500 academic writings are produced year after year, including exercises, quantitative and qualitative analyses, comparative studies and above all criticism of the project. They attempt to find answers to and predict a phenomenon which, although having a few significant actors, bears on its shoulders the weight of an encyclopaedia that has undoubtedly had a social impact on Internet users worldwide, probably with the exception of China, where it was totally forbidden at the end of 2015.[2]

Wikipedia is a living resource that is part of millions of people's lives. And as such, its relationship with society, like that of many other resources for reproducing knowledge and information, is not without controversy. The clash between the poles of production and reproduction of traditional knowledge with their global industries, associations, universities, schools, organisations and cultural secretariats and a 'bunch of nobodies', as Wikipedian and journalist Andrew Lih affectionately calls the community in his book *The Wikipedia Revolution*, is a living fact in the process of finding common ground.

The direct precedents of Wikipedia are Richard Stallman's GNUpedia project (Lih: 2009) and, in particular, his free software philosophy that has developed intensely since the 1980s and is now an irreversible factor in part of the hardware and software that make the technological world possible. As Peter Burke has pointed out, there is a direct link between the French encyclopaedia and Wikipedia's current level of dissemination at the start of the twenty-first century. Its model of entries is predominantly based on the structure established by the French in the eighteenth century, preserving the classification standards of the latter practically intact, albeit possibly enriched by the famous *Britannica*, with which it is often associated and compared.[3]

The early Internet saw the explosion of replicas of electronic likenesses ranging from the 'real' world to that of the Web 1.0: virtual museums, virtual walks, virtual marketplaces, email, ebooks. And the new big bang triggered by the Web 2.0. gave rise to the creation of the collective power of the predicted *prosumption* (Toffler: 1980), that is, creation and emergence based on collective, dynamic content generated by people.

> *Wikipedia's direct precedents are the philosophy of free software, collective content generated by people and the eighteenth-century French encyclopaedia.*

This went hand-in-hand with a type of organisation which, as Yochai Bechler pointed out (Lih: 2009), was already being practiced in computational environments in free software communities: peer production of knowledge based on fruitful interaction between the notion of common good or, rather, the commons, and technology (Lafuente: 2008), all in an environment where tools are relatively easy to learn and the meritocracy spurs an almost egocentric personal satisfaction.

This survey aims to provide an overview of the project as of 2015 – an undertaking which, I should point out, triggers a conflict of interests in this author, as my track record as of today includes 10,000 Wikipedia edits and 23,000 for the projects of the Wikimedia Foundation. I have also headed my country's Wikimedia chapter since 2011.

The five pillars

Wikipedia has five main rules that apply to its current editions in 288 different languages. They are called the 'five pillars', in allusion to the structural elements that support an edifice. There are hundreds of policies, recommendations, guidelines and essays that regulate the encyclopaedia, but only five basic rules. Wikipedians use these five rules to argue their case and there is seldom consensus when, as in legal practice, they consider one to be more valid than another.

These five rules, as published in English, are:

1. Wikipedia is an encyclopedia: It combines many features of general and specialized encyclopaedias, almanacs, and gazetteers. Wikipedia is not a soapbox, an advertising platform, a vanity press, an experiment in anarchy or democracy, an indiscriminate collection of information, or a web directory. It is not a dictionary, a newspaper, or a collection of source documents, although some of its fellow Wikimedia projects are.

2. Wikipedia is written from a neutral point of view: We strive for articles that document and explain major points of view, giving due weight with respect to their prominence in an impartial tone. We avoid advocacy and we characterize information and issues rather than debate them. In some areas there may be just one well-recognized point of view; in others, we describe multiple points of view, presenting each accurately and in context rather than as "the truth" or "the best view". All articles must strive for verifiable accuracy, citing reliable, authoritative sources, especially when the topic is controversial or is on living persons. Editors' personal experiences, interpretations, or opinions do not belong.

3. Wikipedia is free content that anyone can use, edit, and distribute: Since all editors freely license their work to the public, no editor owns an article and any contributions can and will be mercilessly edited and redistributed. Respect copyright laws, and never plagiarize from sources. Borrowing non-free media is sometimes allowed as fair use, but strive to find free alternatives first.

4. Wikipedia editors should treat each other with respect and civility: Respect your fellow Wikipedians, even when you disagree. Apply Wikipedia etiquette, and don't engage in personal attacks. Seek consensus, avoid edit wars, and never disrupt Wikipedia to illustrate a point. Act in good faith, and assume good faith on the part of others. Be open and welcoming to newcomers. Should conflicts arise, discuss them calmly on the appropriate talk pages, follow dispute resolution procedures, and consider that there are 5,060,896 articles on the English Wikipedia to improve and discuss.

5. Wikipedia has no firm rules: Wikipedia has policies and guidelines, but they are not carved in stone; their content and interpretation can evolve over time. The principles and spirit matter more than literal wording, and sometimes improving Wikipedia requires making exceptions. Be bold but not reckless in updating articles. And do not agonize over making mistakes: every past version of a page is saved, so mistakes can be easily corrected.

It is striking that in connection with this pillar Wikipedia should provide an additional explanation of 'What Wikipedia is not'. Notability and neutrality are two of the points that tend to be interpreted most diversely by those who find that these policies are applied to their modifications.

Notability

This is a topic of discussion and lengthy arguments – a sort of entelechy built of various conceptions and reasoning. If Wikipedia's notability policy – that is, what should and should not remain on its pages – is examined carefully, it can be found to be vague and relative.

Despite the established aim to include and fully cover a particular subject in Wikipedia, and the fact that the free encyclopaedia seeks to break away from the structured model of what an encyclopaedia can or should include, as it has surpassed the coverage of a twentieth-century encyclopaedia, there are different methods for judging what should and should not go in it. As Famiglietti points out (2011), concern about physically restricting content as a main guideline has shifted to concern about the permanence of information that is trivial or seeks to convey a particular viewpoint. Editorial criteria, formerly determined by physical factors in knowledge-related projects, are thus subject to a completely different dismissal rule in Wikipedia.

Discussions and explanations given to people who approach the encyclopaedia with different interests and reasons as to why their article should be deleted are everyday matters. Above all, behind the people who keep the project running – jobs without duration, not subject to a recruitment process – is the awareness that Wikipedia is vast but not infinite. It does not aspire to be a boundless resource. It has its bounds, but is more integrating and inclusive of what culture, in the most open and elementary sense of the word, has produced in humans.

Policies and style guides

Wikipedia has its own collectively compiled Manual of Style.[4] On what, or what rules, could it base its initial precepts? The people who collaborate on the Spanish-language edition are scattered around the world from the United States to Patagonia and across Spain, which in 2015 was producing the most edits. This is no easy decision as it must meet the linguistic needs of a region whose relationship with the language dates back five centuries, marked by interaction with another dense web of languages.

Wikipedia has its own collectively compiled Manual of Style and its entire content is decided on by common consent to ensure continuous improvement.

Naturally there needs to be a basic style manual with guidelines on how to express certain words, terms, neologisms, contextual or specific words, scientific terms and chemical formulas, and Wikipedia is based on and constantly interacts with another project of the Wikimedia Foundation called Wiktionary (Wikcionario in Spanish) made up of entries providing further knowledge on a particular word.

Some years ago there was a paradigmatic debate among Spanish-speaking Wikipedians on the use of *mouse versus ratón*.[5] Which is the correct name in Spanish for this computer device? Spaniards defended their usual *ratón* [derived from the Spanish name for the animal]. The contributors from other Spanish-speaking countries argued that Spain was the only country in the world to use the term, while Spanish Wikipedians cited the *Diccionario de la Real Academia de la Lengua* in support of their claim. But using a term not generally employed in the so-called Latin American countries was of no benefit to Spanish-speakers in countries other than Spain. Such divergences arise in a variety of areas: place names, euphemisms, names for the same event – all these are daily topics of discussion among Wikipedia's collaborators to reach agreement on how to present the information to the public at large.

Discussions among the community on various issues are characterised by their exhaustiveness, detail and heated nature. When a piece of data or a whole article is revised it may or may not

survive, and may or may not be modified, but it will emerge with changes for the better after a session that may last for months.

Ultimately, this 'mediated production' carried out for the common good, despite not being conducted in a subtler or even more civilised manner, nonetheless encourages the ongoing improvement of the knowledge of which Wikipedia is a repository.

Systemic bias

There are certain factors that determine Wikipedia's version of the facts. Despite its principle of openness and inclusiveness, in its capacity to generate revisions and criticisms of its non-permanent knowledge, the encyclopaedia depends on an element that even in 2015 is a factor of economic and social exclusion, despite the efforts to reduce these situations even in emerging societies: the Internet. Access by region has a discriminating effect on their opportunities to learn, and to obtain and consume information. In short, what for Wikipedia is a social vehicle for disseminating knowledge to a general public is a hindrance in another context: without the Internet there's no Wikipedia.

The digital and gender gaps are impairments that hinder Wikipedia's activity as a social vehicle for disseminating knowledge. It aims to progressively reduce them.

This discrimination, which establishes a difference not only between people but between whole societies and the so-called information society, creates a gap, resulting in a systemic bias that Wikipedia is striving to reduce progressively.

An anonymous survey[6] conducted by the Wikimedia Foundation on volunteers worldwide in 2012 revealed that international Wikipedia editors are typically white, with an average age of 33, live in the United States or Europe, have jobs and devote their free time to the encyclopaedia. They also have degrees that enable them to work and carry out related digital volunteer work.

A contributor's conclusions and handling of a particular subject may even unwittingly condition a version or vision that aspires to be diverse in today's world. Certain issues of Spanish-speaking societies are dealt with in different depth and may not even exist in other editions. Idiosyncratic subjects are much more popular in a particular encyclopaedia edition than in others. Or they can be laden with much more prejudice than in other societies, or give prominence to a particular piece of information over another because a volunteer with the same interest in the subject will then check the version.

Technical disadvantages in Internet connections make some countries more vulnerable than others. Such is the case of Bolivia, where the Internet service is one of the poorest and most expensive in the world. This naturally leads to lower participation in the project and discourages or reduces the number of Wikipedia editors. Countries' social conditions also determine their enthusiasm for collaborating on a project based on volunteer work. Interest and participation are not the same in countries where people have more time to collaborate on voluntary initiatives – that is, giving away time that can potentially devoted to paid work as opposed to volunteer work (though the latter could probably satisfy other aspects and be psychologically rewarding for collaborators).

Reference sources likewise condition the coverage and availability of the documentation needed to build Wikipedia. In the case of remote countries, despite interest in coverage, it is absolutely essential today to travel to other cities or countries to obtain reliable sources of this information.

Gender gap: heteronormative history

The results of the abovementioned survey dramatically confirmed something that was suspected: one of the most significant biases was the very scant presence of women in Wikipedia. An overwhelming nine out of every ten Wikipedians are men.

This fact basically defines how the encyclopaedia's subjects are covered and displayed, how final content is established and reproduced, validated or maximised by the prevailing heteronormativity. Sue Gardner, former executive director of Wikimedia Foundation, took the first steps towards raising awareness of this situation[7] and described it as intolerable.

> *The knowledge environment that underpins it is the paradigm of uncertainty, as it is no longer possible to trust any resource implicitly.*

The reasons why women do not take part in Wikipedia are usually diverse. One is the harassment and violence that are characteristic not only of this project but of many other Internet initiatives,[8] where these situations are common to women of all ages. Likewise, women are generally busier than men owing to the gender roles traditionally imposed by heteronormativity. Women have to overcome more social hurdles to be able to devote their time freely to volunteer work and to addressing new technology challenges that many people still regard as men's business.

The past year has been decisive in tackling this phenomenon in Mexico. Wikimedia Mexico launched a strategy for reducing the gender gap in Wikimedia projects based essentially on *editatonas* (from the word editathon, linguistically adapted to create a feminine version): spaces where women can gather, shielded from violence and harassment, to share sessions of writing and rewriting a more inclusive history.

At these events women can learn and edit Wikipedia, overcoming as a group the most common restrictions that discourage them. There are now more female experts willing to help, others are learning and, above all, they can seek support when they are harassed and/or suffer discrimination on the grounds of gender. This is all part of a broader underlying problem which is rife in the technological sector, where men have better jobs and are paid more than women and where sexism[9] and sexual harassment are a reality that goes beyond the technology environment and industry.

Based on the abovementioned statistics on the characteristics of the average Wikipedian, incidents of sexism and discrimination against women are common. Initiatives such as Ada Lovelace are designed to combat this reality and help boost women's involvement in the free and open software sector and other related initiatives.

Usage in Mexico and Spanish America

Fifteen years on, Wikipedia's usage and editing figures are growing globally and performing differently compared to the early years. Wikipedia in Spanish (http://es.wikipedia.org) is the most commonly used and edited resource in the Spanish American countries.

Wikimedia's servers recorded 87 million visits in Mexico, a country where 44 million people have an Internet connection, in August 2015.[10] Spain, Argentina and Chile are the biggest readers of Wikipedia. Spain is the leading country in number of edits, 23,000 per month.

There are known Wikimedia communities in Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador and Venezuela.

2. Chief criticisms of the project

Reliability

The Wikipedia model allows anyone to edit and people do not need to prove their knowledge, academic qualifications, membership of societies or other credentials in order to write for it. Critics commonly question to what extent it is a reliable resource for the students wishing to consult it.

The quality, breadth and development of the articles found in Wikipedia is uneven and diverse owing to its very nature, as we shall examine in detail in the following paragraphs. Comparative studies have been conducted taking random samples of articles related to school programmes to check their reliability. One of the most notable was carried out in 2005 by *Nature* magazine,[11] in which 42 articles of the English edition were approved in quality and length, and in 2012 a team of researchers from Oxford University carried out a comparative study of Wikipedia and other online encyclopaedias such as the Britannica. They reported favourably on the reliability of Wikipedia.[12]

Decentralised and non-academic authorship has its advantages, as it asserts the idea of knowledge permanently under construction.

In future, in a knowledge environment underpinned by the paradigm of certainty (Wallerstein: 1999), it will not be possible to fully trust a resource like Wikipedia. But this is equally true of other knowledge resources, though Wikipedia is the most visible and popular (Wikipedia, according to Alexa, ranks 10th in the Spanish-speaking world, the RAE 2868th).[13]

Collaboration and decentralised authorship

Around 1977 the *Encyclopaedia Britannica* commissioned Emir Rodríguez Monegal to write the article on author Jorge Luis Borges: a scholar with a particular fondness for encyclopaedias and whose literary and critical reasoning advocated decentralised authorship, the automation of processes and the fantasy of a library rewritten in the eternity of a Babelian dream of knowledge. Scholars have even pointed out the similarities between Borges's thought and the Internet and its new collaborative age (Sassón-Henry: 2007).

Borges was also fond of conceiving works not as authors' products but as rewritable summae, as in a virtual palimpsest that can be improved and written as knowledge grows, shrinks or expands – like Wikipedia itself, which for this purpose has a policy of detachment from what is written. Contributions are permanently donated, with the exception that they can be improved, modified or replaced by new knowledge stemming from the academic community who carry out research day by day.

In a world of *wikinomic* production, it was free software that showed the rest of knowledge production the advantages of collaboratively revised and manufactured production. 'Weapons of mass production' (Tapscott: 2006) helped a new platform like Wikipedia to function as a diffuse author in which millions of people all over the world were nevertheless placing their trust. Will Wikipedia need to be have its certainty assured by part of the academy? And if so, how could it be granted such status?

Such decentralised authorship has its advantages, which can help improve people's perception of scientific certainty by widely advocating the idea of a knowledge that is permanently under construction. Any omission or misinformation generated by a Wikipedian can be remedied by that Wikipedian or by others. In science, however, a mistake can be the downfall of a career or cause endless discredit. 'Wikipedia contributors receive much less benefit than scientists for getting things right and suffer much less cost for getting things wrong', notes K. Brad Wray (quoted by Fallis: 2009).

The decentralised authorship model makes it forbidden for an article to be signed by just one contributor. And this convention appears to destabilise the paradigm of certainty that science has upheld with rationalistic fervour since the eighteenth century. Perhaps this is because Wikipedia is absolutely dependent on science, on which its truthfulness is based, and because it pursues aims different from what we take certainty to mean when we assess an original research product. Wikipedia draws on conventional material available to everyone. Is it, then, omission of knowledge of new sources that permits erroneous knowledge in Wikipedia? How can we assess confidence in the project – through what it hasn't got or because what it has got doesn't reflect the current status of the matter in question?

Model of encyclopaedic answer

The inherited model of encyclopaedic question that underpins Wikipedia's structure has remained practically unchanged. As such, following this reasoning, Wikipedia is not an innovative product; its historical roots are embedded in this semantic structure and it answers questions in the same manner as its predecessors. There are other online knowledge resources with different aims such as Quora, which bases its experience on questions.

The reasoning behind Wikipedia's structure functions on the principle of *this* is *this*. And from there it leads to a broad explanation. There are testimonies telling how Jimmy Wales and Larry Sanger established the basic guidelines for defining truthfulness and neutrality according to their philosophical understanding (Lih: 2009). But these testimonies do not make it clear whether this model was questioned or how both men decided to make it that way.

Wikipedia, vandalism and gonzo journalism

In the Wikipedia world, vandalism means purposely including in the encyclopaedia content that is known to be erroneous, generally for 'amusement', to launder information that is uncomfortable or to exaggerate attributions of phenomena or people. Even so, the percentage of vandalism is lower than that of good edits.

By 'amusement' we mean when somebody who is not committed to Wikipedia's values realises that anyone can edit it and changes dates or information or gives an object or person fictitious attributes.

It is based on a collective model of donations and funds through the Wikipedia Foundation, a not-for-profit organisation that provides technical, administrative and financial support.

Intentional vandalism can also extend to activism. For example: in Mexico, in 2015, the word 'criminal' was added to the article on Javier Duarte, governor of Veracruz, to describe his profession, following the murders of a journalist and activist of Veracruz, to suggest that he was implicated. This vandalism lasted a couple of minutes.

There are more controversial cases of modifications of this kind, which bring to mind Hunter Thompson and his gonzo journalism, as some media have been discovered to have modified articles in order to *stand out*. One of the most notorious cases was in Argentina in 2010, when the daily newspaper *Clarín* vandalised the article 'La noche de los lápices' in order to be able to publish on its cover (http://edant.clarin.com/diario/2006/09/14/um/m-01271296.htm) that Wikipedia supported the coup d'état.[14]

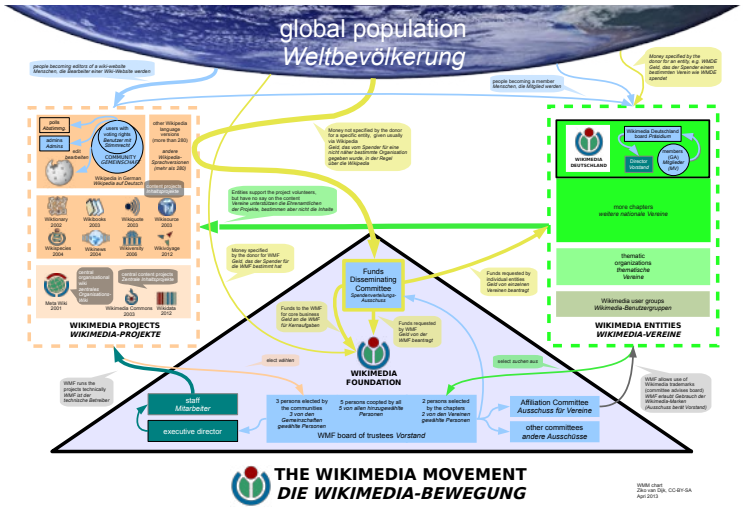
All data for which there are no references is deleted; that is why actions of this kind make extra work for the community of people who build Wikipedia.

3. Fifteen years on

Wikipedia/Wikimedia

Since 2003 Wikipedia has been supported by a not-for-profit foundation. Jimmy Wales and Larry Sanger decided to make the radical switch from the original profits-based model to a donations-based model. Up until then Wales's company, Bomis, had borne the costs of the online encyclopaedia. The establishment of the Wikipedia Foundation was the first step towards shaping the model of donations and collective fundraising. By 2005 the foundation had raised its first million dollars, and this amount had increased to 75 million for 2014–15.[15] According to the foundation, individual readers give most of the money received by the global foundation, though the United States and Canada were the largest donors in the 2014 fundraising campaign. A total of 4.9 million people worldwide donated money to the Wikimedia projects.

The foundation, based in San Francisco, California, has nearly 280 employees, both male and female. As usual, there is a contrast between number of employees and the size of the online project. The number was almost tripled when Lila Tretikov took over as executive director of Wikimedia Foundation in May 2014[16] and started hiring personnel from the Bay Area, focusing on technical aspects such as reader experience, improving editing tools and developing more advanced mobile capabilities.



The Wikimedia movement as it stands in 2015 can be divided into three main categories:

1. The community of male and female editors who work voluntarily on the Wikimedia projects: Wikipedia, Wikibooks, Wiktionary, Wikiversity, Wikisource, Wikivoyage, Wikispecies, Wikinews, Wikiquote; the centralised resource sites Wikidata and Wikimedia Commons; and those that are related to internal processes in Meta-Wiki and everything that is linked to the development of the MediaWiki technical and software project that makes the whole thing possible. If we take as a parameter the consideration that an active contributor produces more than five edits per month in any of these projects, this gives an average number of 75,000 people who make up the community each month.

2. The Wikipedia entities, which are divided into national chapters affiliated with Wikimedia. The former are civil organisations legally established in countries that provide support with projects of different kinds: educational, cultural, legal, etc. The latter are support groups that can work on thematic or regional projects. Most members, partners or affiliates are part of the huge community of contributors. The entities enter into local agreements and report their activity to their countries' media.

3. Lastly, the abovementioned Wikimedia Foundation is the not-for-profit organisation that provides the technical, administrative and financial underpinning. It regulates and lends support to the communities around the world.

Fifteen years on, what Wikipedia has triggered is an issue that was probably not foreseen by those who originally designed it. This movement, with such a complex, diverse structure, functions in an asynchronous, self-regulated, horizontal manner from the perspective of a common mission albeit among the utmost diversity of different geographical contacts, distinct socioeconomic groups, and divergent

idiosyncrasies. Within the Internet there are networks based on experience or power,[17] but the combination of both elements as functional nodes is fully reflected in the Wikimedia movement. And its members constantly discuss what their powers are but also their counterweights, be they new policies or rules that limit or extend the action of the various affiliates that make up the movement. It began more as an 'Internet tribe' (O'Neil: 2009) but grew into a vast community whose main reference is the Internet and the discourse with which the world has been telling its story in recent years.

Its challenges include guaranteeing the sovereignty and sustainability of its organisations, the representativeness of the movement's diversity, and continuity in the face of internal or external threats.

Such an ecosystem naturally has challenges of governance and representativeness, as the Internet is a direct product of the economic and social conditions that dominate its connections and powers, and Wikipedia is not unaware of this.

Challenges of governance and representativeness in the global movement

The first disagreement between the US end that structures the movement and the most powerful Wikimedia organisations, those of Europe, surfaced in 2011, during the Wikimania meeting held in Israel. As the Wikimedia Foundation grew, other smaller organisations such as Wikimedia Deutschland and Wikimedia France, among others, developed into significant entities within the movement, with organisational and economic capabilities, if not with respect to the size of the mother organisation at least with the possibility of generating long-term projects.

It is not known for certain what led the Wikimedia Foundation to turn around the model of chapters adopted since 2005, when it implemented and even encouraged the creation of national organisations to shape a new model of affiliates divided into emerging groups of users or groups linked by common interests or regional capabilities. Such was the clash that within the network of chapters the incident was dubbed the 'Haifa drama' and triggered antagonism between the two organisations for a few months. It was even attempted unsuccessfully at the Wikimedia Conference in Berlin in 2012, attended by representatives of the Wikimedia chapters, to set up a confederation of chapters in reaction to these measures.

According to a survey conducted by Wikimedia Deutschland in 2014 as part of the Wikimedia Chapters Dialogue,[18] there is full perception of collaboration and confidence aside from certain issues such as the lack of mutual perception, communication and lack of understanding in some aspects.

This movement faces many challenges; for example, guaranteeing the sovereignty and sustainability of its support organisations, guaranteeing the representativeness of the movement's diversity, and ensuring that the movement itself remains governable even in the face of internal or external threats.

Wikipedian in residence

Beginning in 2010, the movement's interest in the culture sector grew and developed into more organised projects. In 2010 Wikipedian Liam Wyatt started up the first museum internship in order to broaden the English-language version of Wikipedia's knowledge of traditional repositories, in this case the famous British Museum. These collaborations seek to explore in depth the holdings of museums, libraries, galleries and archives chiefly and see them reflected in Wikipedia and Wikimedia projects in a more structured manner in order to foster understanding between both forms of disseminating knowledge.

Since then mutual knowledge has been gleaned from experiences in this sector, which enjoys a prominent role in culture. The lessons learned from them are compiled and published in *This Month in GLAM* and discussed at international meetings. How are links established between curators and researchers at museums, librarians, conservators and restorers? It is not usually possible to place museums' entire holdings on display for reasons of time and space.

Institutions such as the castle of Versailles, the German Federal Archives, the Museu Picasso in Barcelona, UNESCO and the Smithsonian Institution Archives have collaborated on this project. In Mexico the author of this article spent several months at the Museo Soumaya developing projects related to the museum's collection, which spans from the fourteenth to the twentieth centuries.

Work was carried out in Mexico during 2015 to create content based on museum collections. Museums have provided images and placed them under a Creative Commons licence.

The projects of this kind run in Mexico in 2015 involved above all creating content based on the collections in the museum's care, as well as articles on national and international art but related to the museum. The museum has furthermore donated high-resolution images taken professionally by specialised photographers and has loaned and placed them under a new Creative Commons Attribution-ShareAlike licence.

Wikipedia in the living room: building live knowledge

Although there are statistics indicating that it is used constantly and widely by young people in Mexico,[19] there is plenty of room for improvement in the relationship between Wikipedia and the school environment. It is very common for Wikipedia to be formally forbidden at primary school level and banished from high-level academic circles. According to a few case studies (Bayliss: 2009, Brox: 2012), concerns about Wikipedia relate to the fact that it encourages copying and pasting content, as well as to its truthfulness and accuracy and diffuse notion of authorship.

There are no quantitative or qualitative studies on the relationship between Wikipedia and the world's schools; such a mammoth task is beyond the capabilities of the movement. Instead, it has responded to this perception by setting up Wikipedia's Education Programme, a series of online resources and strategies that promote the adoption of Wikipedia in classrooms under guidance.

The models showing how knowledge is built on a particular subject in Wikpedia are varied, ranging from getting a group of students to examine a particular article as a semester project,[20] or assigning a complete Wikipedia article for a semester assessment.[21]

Started up in the United States and Canada, in 2015 the programme incorporated schools, teachers and pupils of 62 countries. In Mexico work has been carried out since 2011 at the Universidad Nacional Autónoma de México, the Universidad Autónoma Metropolitana campus Iztapalapa, the Instituto Tecnológico Autónomo de México, the Benemérita Universidad Autónoma de Puebla and the Universidad de las Américas, among other institutions. By the end of 2015, Wikimedia México had assessed 118 students through Wikipedia's educational programme.

Growth outlook: prospects, ideas and way forward

As stated earlier, the intellectual production based around Wikipedia is centred on analysing its inspirations and consequences – on how it exerts influence as a mechanism of virtuality sui generis as a substantial part of the Internet, as it is known to those of us who currently have access to it.

Every year Wikipedia raises more funds and its continuity therefore seems to be assured, at least for a few more years. Its community has developed a series of technological, social and legal mechanisms for guaranteeing this continuity despite decisions to the contrary. The Wikimedia Foundation's five-year strategy specified its priorities in 2009[22]:

- Increase the total number of people served to 1 billion.
- Increase the number of Wikipedia articles we offer to 50 million.
- Ensure information is high quality by increasing the percentage of material reviewed to be of high or very high quality by 25 percent.
- Encourage readers to become contributors by increasing the number of total editors who make at least 5 edits per month to 200,000.
- Support healthy diversity in the editing community by doubling the percentage of female editors to 25 percent and increase the percentage of Global South editors to 37 percent.

In future Wikipedia must seek a way of incorporating the latest emerging Internet technologies in a digital world based on mobile devices.

In addition to these concerns, centred on the number of people who turn to Wikipedia whether as readers or contributors, and the expansion of the Internet in countries with emerging economies, how will Wikipedia be included in emerging Internet technologies, in the new mobile reality? When it came into being the computing environment was totally dominated by desktop, at least five devices performed the functions of what today's smartphones do and Wikipedia itself was designed to be viewed on a PC monitor.

How will the Internet adapt to the Web, devices, objects and mass data processing, but also to a digital world based chiefly on mobiles and on content generated for them?

4. Conclusions

As this survey indicates, we cannot make sweeping generalisations or take a deterministic view of the Wikipedia Internet phenomenon. Its components, characteristics and internal workings do not allow for simple explanations; rather, they call for reflection on and criticism of a minimal part of its components. The influence of its content on the social scene will increase in years to come and its interaction with other knowledge-related social actors is not only imminent but a reality and a substantial part of its voluntary efforts to establish links.

Its free model makes some people uneasy but makes life easier for others; it encourages some to reflect and learn from experience and sparks huge misgivings in others. After 15 years of existence, Wikipedia seems to fall more into the category of common good, of that which belongs to mankind as a whole and as such must be preserved and cared for, than to the closed model of cultural assets upheld in past centuries at least.

Bibliography and digital resources

Bayliss, Gema. 'Exploring the Cautionary Attitude Toward Wikipedia in Higher Education: Implications for Higher Education Institutions', *New Review of Academic Librarianship*, 19:36–57, 2013, Taylor & Francis Group, LLC. Available at https://doaj.org/article/3f353b07f6cb437fa9c96848e2339e2

Brox, Hilde. 'The Elephant in the Room: a Place for Wikipedia in Higher Education?', *Nordlit: Tidsskrift i litteratur og kultur*, Universitetet i Tromsø, 2012. Available at https://doaj.org/article/3f353b07f6cb437fa9c96848e2339e2b

Famiglietti, Andrew. *Hackers, Cyborgs and Wikipedians: the Political Economy and Cultural History of Wikipedia*. Dissertation for a PhD at the Graduate College of Bowling Green State University, 2011. Available at http://scholarworks.bgsu.edu/acs_diss/16/

Jemielniak, Dariusz. *Common Knowledge. An Ethnography of Wikipedia.* United States, Stanford University Press, 2014.

Lafuente, Antonio. *Laboratorio del Procomún. Un proyecto en defensa del bien común*. Spain, Consejo Superior de Investigaciones Científicas, 2008. Available at http://digital.csic.es/handle/10261/96935

Lih, Andrew. *The Wikipedia Revolution: How a Bunch of Nobodies Created the World's Greatest Encyclopedia*. Hyperion Books, 2009.

O'Neil, Mathieu. *Cyber Chiefs. Autonomy and Authority in Online Tribes*. New York, Pluto Press, 2009.

Ortega, Felipe. *Wikipedia: A Quantitative Analysis*. Doctoral dissertation submitted at Universidad Rey Juan Carlos, Madrid (Spain), 2009. Available at https://eciencia.urjc.es/bitstream/handle/10115/11239/thesis-jfelipe.pdf

Reagle Jr., Joseph Michael. *Good Faith Collaboration: the Culture of Wikipedia*. United States, MIT Press, 2010. Available at https://mitpress.mit.edu/sites/default/files/titles/free_download/9780262518208_Good_Faith_Colaboration.pdf

Sassón-Henry, Perla. *Borges 2.0: From Text to Virtual Worlds*. Peter Lang, 2007.

Toffler, Alvin. *The Third Wave*. New York, Bantam Books, 1984.

Wallerstein, Immanuel. *El fin de las certidumbres en las ciencias sociales*. Mexico, UNAM-Centro de Investigaciones Multidisciplinarias en Ciencias y Humanidades, 1999. Excepts available at http://computo.ceiich.unam.mx/webceiich/docs/libro/El_fin_de_las_certidumbres_en_ciencias_sociales.pdf

Wikipedia statistics: http://stats.wikimedia.org

Wikipedia Top 100: http://top.hatnote.com/es/

Tweeters

@Wikipedia
@Wikinoticias
@Jimmy_wales
@alan_lzd
@bernardosampa
@alafuente
@pazpena
@eswikipedia
@WeAreWikipedia
@padaguan
@Wikiresearch
@hatnote

Notes

1. Average figure for 2015 available at stats.wikimedia.org ◂
2. Naidu, Sumisha. 'Wikipedia boss to lobby China to unblock website', Channel NewsAsia, 2 December 2015. Available at http://www.channelnewsasia.com/news/asiapacific/wikipedia-boss-to-lobby/2312740.html ◂
3. BBCMundo.com 'Gratis y confiable', dice estudio. BBCMundo.com, 18 December 2005. Retrieved from http://news.bbc.co.uk/hi/spanish/science/newsid_4540000/4540140.stm ◂
4. Available at https://en.wikipedia.org/wiki/Wikipedia:Manual_of_Style In Spanish: https://es.wikipedia.org/wiki/Wikipedia:Manual_de_estilo ◂
5. Available at https://es.wikipedia.org/wiki/Discusi%C3%B3n:Rat%C3%B3n_%28inform%C3%A1tica%29 ◂
6. Results available at https://meta.wikimedia.org/wiki/Research:Wikipedia_Editor_Survey_2012 ◂
7. Available at http://suegardner.org/2011/02/19/nine-reasons-why-women-dont-edit-wikipedia-in-their-own-words/ ◂
8. UN Women reported this phenomenon as occurring in 2015: http://www.unwomen.org/en/news/stories/2015/9/cyber-violence-report-press-release ◂
9. This phenomenon is summarised in https://en.wikipedia.org/wiki/Sexism_in_the_technology_industry ◂
10. Available at https://stats.wikimedia.org/wikimedia/squids/SquidReportPageViewsPerCountryOverview.htm ◂
11. Jim Giles. 'Special Report: Internet encyclopaedias go head to head'. *Nature* 438, 900–1 (15 December 2005). Available at http://www.nature.com/nature/journal/v438/n7070/full/438900a.html ◂
12. Available at https://commons.wikimedia.org/wiki/File:EPIC_Oxford_report.pdf ◂
13. Murolo: 2010. ◂
14. See: https://es.wikinews.org/wiki/La_Wikipedia_en_espa%C3%B1ol_afirma_que_Clar%C3%ADn_difunde_falsa_noticia_tras_un_presunto_intento_an%C3%B3nimo_de_sabotear_un_art%C3%ADculo, http://argentina.indymedia.org/news/2006/09/441782.php ◂
15. According to KPMG's audit of the WMF available at https://upload.wikimedia.org/wikipedia/foundation/0/0b/Audit_Report_-_FY_14-15_-_Final.PDF ◂
16. Tretikov's initial plan was for 35 engineers, though the figure has grown: http://time.com/wikipedia/ ◂
17. Castells: 2006. ◂
18. Wikimedia Chapters Dialogue, available at https://meta.wikimedia.org/wiki/Chapters_Dialogue/Insights/Perceptions ◂
19. As stated by the *Primera Encuesta Nacional sobre Consumo de Medios Digitales y Lectura 2015*, conducted by IBBY México: http://www.juridicas.unam.mx/novedades/encuesta-consumo-medios-digitales.pdf ◂
20. As done by Professor José Francisco Barrón in the Faculty of Philosophy and Letters of the Universidad Nacional Autónoma de México with his group of students in 2015: https://es.wikipedia.org/wiki/Testimonio ◂
21. Such is the case of Luz María Silva, author and professor at the Instituto Tecnológico Autónomo de México, who has been assessing one of her groups term after term at least since 2013. ◂
22. Available at https://wikimediafoundation.org/wiki/Wikimedia_Movement_Strategic_Plan_Summary ◂

THE IMPACT OF THE INTERNET ON CULTURAL CREATION

Mariana Moura Santos · @marysaints

Founder of Chicas Poderosas, a digital teaching community designed to familiarise female journalists with newsroom technology. Director of interactive and animation at Fusion. She recently completed a John S. Knight Fellowship at Stanford in 2015 and as a Knight International Journalism Fellow in 2013–14 she worked in leading newsrooms of Latin America and with independent journalists. Mariana Santos is a visual storyteller who did ground-breaking work as a member of the interactive team at *The Guardian* in London. A trained animator, she pioneered the newsroom's use of motion graphics to make data stories more compelling. She runs workshops on design thought to encourage a multidisciplinary approach to storytelling and leads the transformation of communities by equipping them with digital skills.

The Internet has brought media and the power of communication to another level and therefore the entire manifestation and exchange of culture and expression.

The digitalisation of information and open access to knowledge has brought power to the people. With open channels and freedom of expression, the exchange of opinion and the opportunity for spreading the news has become openly available, though this does not mean that just because the channels are open now the information they transmit is necessarily truthful.

Analysing social media

During the riots of 2012 in London, while working at *The Guardian* newspaper, one of the projects assigned to the interactive team was to analyse the power of Twitter as the main form of communication among not only journalists but in particular the population.

An interdisciplinary team of academics and some advanced web technologies were behind one of our most ambitious visualisations to date.

Jonathan Richards, former Guardian Interactive editor, now at Google Ideas Australia, explains it as follows:

> Throughout the UK riots, many scanned the internet in search of reliable information. In the absence of confirmed news, the web was often the only way of tracking events. Amidst the hubbub, countless topics came and went. As worries mounted, speculation grew. Rare individuals requested sources, countered hearsay, sought the truth. The rise and fall of rumours on Twitter is a striking display of social forces in action.
>
> Asked to produce an interactive visualisation for the *Reading the Riots* project, we resolved to find a way to show the birth and death of rumours on Twitter. The result is one of the most ambitious pieces we have ever built, both in terms of data analysis and dynamic graphics. Its purpose: to display how misinformation corrects itself in open, unregulated forums.

Our initial source was a corpus of 2.6 million tweets provided by Twitter, all of which 'related to' the riots by virtue of containing at least one of a series of hashtags.

The first challenge was to work out which rumours we should track, and how to isolate tweets that related to these rumours. Working in conjunction with journalists who'd covered the story, we identified seven key rumours, ranging from the frivolous (that army tanks had been deployed in the City of London) to the more sobering (that the Tottenham riots began with the police beating a 16-year-old girl).

The fact that the 'channels are open' doesn't mean that the news, opinions and rumours social media users transmit are necessarily truthful.

With help from an interdisciplinary team of researchers[1] at the Universities of Manchester, St Andrews and Leicester, we distilled the overall corpus down to a series of subsets related to each rumour. We then undertook a more hands-on approach to find the tweets that best represented each story.

Next came the task of visualising the 'flow' of a particular rumour as it took flight. Looking to projects like Bloom's Fizz for inspiration, we decided upon an aesthetic that shows tweets as circles grouped into larger circles. In our case, this grouping would place the items into clusters – each comprising a set of retweets for a given tweet.

To make this work, we needed to find which tweets belong to each cluster. Again, our academic partners proved invaluable, providing a parametrised Levenshtein distance algorithm for finding all tweets within a certain 'distance' from each other in textual terms.

Once the clusters were identified, we developed a system to visualise their rise and fall over time. Sizing each tweet according to the influence of its author (determined by follower count), we added a decay function that would allow it to dissipate over time. As such, clusters grow and shrink as their theme is taken up by additional voices.

Our last challenge was to classify each tweet according to a 'common sense understanding' of its main role as a communicative act. Did it support, oppose, query or comment on a rumour? In addition to an algorithmic analysis by our academic partners, each tweet was independently coded by three sociology PhD students in order to enable us to check for reliability. All the results were then subject to final review for quality assurance purposes. These categories could then be used to colour code each tweet so that readers get an overall picture of what direction the dialogue is taking.

The new generation of readers wants to be part of a conversation where stories are a dialogue between readers, journalists, activists, artists and experts, all building off one another.

With this work underway, developers Martin Shuttleworth and Robin Beitra built an interactive timeline that would allow each rumour to be replayed like a video. Getting such complex graphics in place using web standards poses many problems. After seeking advice from some experienced friends, we chose an architecture that resembles what you'd find under the hood of an arcade game. The data for each rumour is loaded from a JSON file and placed in a structured model. Every frame, the model is queried to find what's in play, a custom physics engine is updated to reflect the results and a renderer draws the current state to the screen.

Robin went to pains to ensure we could cater for the largest possible audience. He built alternative renderers for WebGL, HTML5 Canvas and Flash so that even older browsers would have access. He then fine-tuned the amount of information passed to the renderer so that it just draws what has changed rather than rebuilding the whole scene each frame.

Martin did some great work to make an interactive playhead that lets the rest of the system what time it is. Backbone.js proved very useful for keeping everything in sync. We added a graph of tweet volume over time to help people find the most interesting parts of the story. This is drawn in SVG or VML depending on browser capability.

Finally we attempted to trace the narrative arc of each story with a series of editorially curated panels, each of which cites a key tweet (or tweets) from within the life of the rumour. This adds helpful context to what might otherwise be a somewhat abstract journey.

We're pretty happy with the result. The combination of fluid movement, ebb and flow and polarised colours gives the effect of watching biological phenomena unfold. We hope putting memes under the microscope will help untangle the forces at play in further dialogues too.'

The importance of journalism in digital culture

This project was the living example that just because 'channels are open' it doesn't mean that the truth will arise from the dialogues among users of these new technologies employed to spread news, opinions or in most cases rumours.

The importance of the role of journalism is now more evident than ever. A colleague of mine at Fusion, whom I deeply respect, has expressed some controversial opinions about the difficult of being a journalist in the age of the Internet, but I totally disagree with him.

On 9 February, my dear colleague Felix Salmon gave some (frequently solicited) advice to young journalists[2] trying to break into media: as he himself put it himself, 'Don't do it'.

Salmon said it's never been more competitive, that the future will be more so, and that the privileged class that has traditionally found well-paying media jobs is being disrupted, with elite degrees and family connections no longer guaranteeing success.

And though much of what Salmon said is true, I think that getting into journalism is more exciting than ever before. With new challenges, yes, but even more opportunities for a wider group of voices than we've ever heard, and the chance to build a media career that is uniquely theirs, rather than defined by structures set in places decades or centuries prior.

I should know, because that's exactly what I've done as director of interactive at Fusion, where I tell the news with images, words and video, in forms static and otherwise.

I did not set out to become a journalist but a communications designer.

When I began my career as a motion graphics designer, I thought I would be confined to the advertising industry, telling stories to sell products and services to people.

I soon became frustrated, however – I was eager to tell stories, but I wasn't telling the stories that truly mattered to me – so I began searching for work that would provide me with a feeling of accomplishment.

I felt a bit lost: I didn't know what opportunities might exist for more fulfilling work, but I fought doubts and fears gnawing at me and explored what was out there.

What I realised was this: news was making the tumultuous shift from print to digital, and audiences were hungry for video and, more importantly, the chance to be part of the conversation. As someone in the world of graphic culture and motion graphics, I realised that my skills and background could bring something new to the table.

Now there was not only room for me, but a need for others like myself: fresh minds with new approaches and a desire to serve a generation of readers who wanted to be part of the conversation, where the story is no longer presented as a monologue but as a dialogue between readers, journalists, activists, artists and experts, all building off one another.

> *It's about problem finding rather than jumping straight into problem solving. The creative process starts with the users – learning about their actions and observing their behaviour to find out their needs.*

Let me be clear: journalism *is* undergoing a huge shift, and change doesn't happen easily. But this shift also provides a whole bunch of new and exciting opportunities as we adapt and reinvent our notions both of what it is to be a journalist and what 'media' means.

Journalists, entrepreneurs and activists are joining forces to make a difference in a world where corruption, inaccessibility of information, abuse of power, discrimination and bad policies are the topic of the day.

Look at all the amazing new ventures created to take on the new kinds of media work that needs to be done, from outlets like Vox Media, AJ+, The Marshall Project, The Skim, Quartz and The Conversation, to my beloved Fusion.

Though being a white, intelligent and privileged male with height, education, and a nice accent still helps, it no longer guarantees a life of career safety. And expecting luck to help build or make your career is a dangerous strategy.

What some of the most exciting journalists working right now have in common is that they care, have a story to tell, and want to make a difference. They come from all sorts of backgrounds: design, engineering, geography, political science, finance, sociology, ecology, film and anthropology. They know they have insights and perspective to add to the conversation. Some of them work alongside me at Stanford, where I'm completing a John S. Knight Fellowship. There's one woman who is trying to reinvent how videos are consumed on mobile. Another is working to figure out why our attention spans are decreasing when consuming stories online and another JSK fellow is committed to making it easier for journalists to get access to information that should be free.

All these journalists are trying to find solutions by questioning facts that used to be taken for granted. They – and organisations who believe in the future of media, like the Knight Foundation, the International Centre for Journalists, and the JSK Fellowship at Stanford – realise that the opportunities are there, but only if we change the mindset.

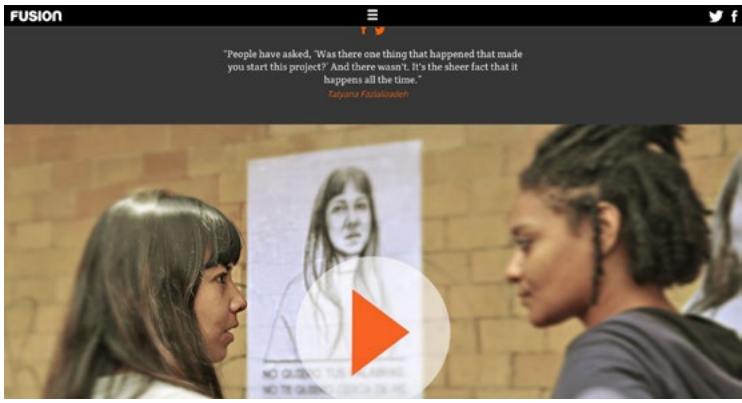
Power comes from organised groups. If you want people to have power, then you want to help them connect with others and teach them how to carry out effective advocacy together.

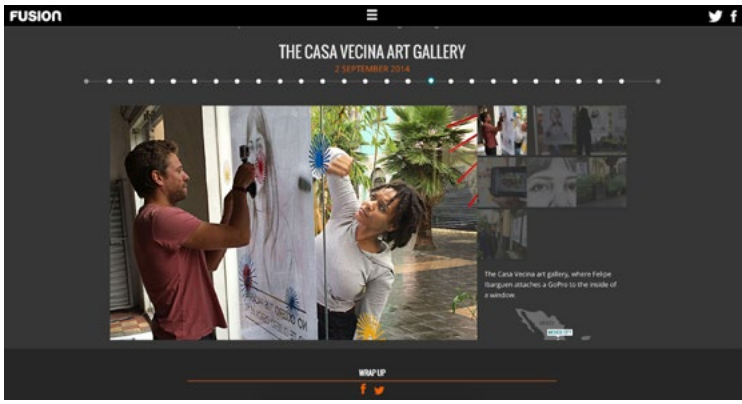
I wouldn't be here if I had quit before I started. My advice is simple: if you love it, don't leave it!

From text to image, from image to community, from community to change

As stories come out of the paper to become live campaigns, the power of media can be used to create impact and social change. Based on a shift of strategy and vision, coming out of the comfort zone, cooperate instead of compete, making it more accessible for everyone.

Power comes from organised groups. If you want people to have power, then you want to help them connect with others and teach them how to carry out effective advocacy together. That's hard.





It's not a technology problem. It's not something that a slick website solves. Building *power* is a social, societal, institutional challenge.

Observing the ever growing aggressivity against women around the world and targeting female street harassment in Mexico. In September 2015, Fusion commissioned the visual artist Tatyana Fazlalizadeh, 29, to travel to Mexico City and

create an installation of her highly-acclaimed art project protesting against street harassment, 'Stop Telling Women to Smile'. Fazlalizadeh's visit to Mexico was her first to the country; it was also the first time the STWTS project — for which Fazlalizadeh papers city streets with hand-drawn portraits of women pushing back against their street harassers — had ever been created and then exhibited outside of the United States.

The goal of this project was to amplify the voices of Mexican women who are challenging the ways in which their communities turn a blind eye to harassment and violence against women. 'I wanted to find out, what do women in Mexico City go through?' says the NYC-based Fazlalizadeh. 'What are their experiences? What are their stories? How's what they experience different from what I experience? How can I reflect those differences in these pieces?'

Street harassment, also known as 'acoso en las calles', is an enormous problem in Mexico City and the country as a whole, where rates of sexual violence against women are some of the highest in the world.

In this project, we tried to bring 76 short stories of the individuals who wanted to speak out about their experiences with street harassment. Here the text wouldn't do justice, so we used image: the artist drew the women's faces with a line of text saying what they hear mostly as a harassment. Combining image and text in the public space, this project would create an interaction among population and their stories. To bring this story to our online audience we used video of theses women telling us what they hear everyday, how that makes them feel etc. This is a new way of telling huge amounts of stories in a very accessible way to consume them, bringing these women closer to the public's understanding in expectancy of reaching empathy.

How might we use human-centred design for media innovation

Talking about the crisis 'media is facing' is a topic that has been making headlines for quite some time now. Media talking about media... where often we see journalists themselves feeling they are the protagonists of their stories... it's time to shift the focus point and adapt to the digital reality – we need to start with our readers, they need to be the focus group.

Human-centred design starts by framing problems as opportunities by observing people and their behaviours.

With the huge migration crisis taking place in the Mediterranean Sea, I decided to create something revolutionary to try to address this problem with a new strategy: a strategy to bring together journalists from different, and sometimes competitive newsrooms, together with designers, developers, activists, lawyers and digital thinkers, to try to come up with new solutions to help these millions of refugees trying to escape from their home country in search of a livelihood and decent quality of life for their families. All of this is carried out in collaboration across newsrooms, across talents, across cultures and all with the same goal – to help solve this unsolved problem where NGOs, Governments and Policy makers have had no answer to address. For this Fusion and I, together with Global Editors Network[3] and the Italian Coalition for Human Rights and Freedom - CILD[4] put together a two-week event in Rome, where we had the access to several NGOs such as the Red Cross, United Nations, UNHCR, Urban refugees, European Protection Now, Ghost Boat, The Migrant Files, Archivio Migranti and Carovane Migranti, among others.

This team was joined by two designers from IDEO[5] (Sina Mossayeb and Ed White), a company devoted to finding solution using human-centred

design in their approach to the problems. They were with *The 19 Million Project*[6] for the first week, coaching journalists, developers, designers and everyone involved in the teams on using empathy to learn from the refugees, centres for humanitarian assistance, marine police and help bodies, in order to learn from the sources what were the biggest struggles these people had in the process of migration, both those trying to migrate and those attempting to help them survive and reach the shore safe and sound.

This is the process used when creating a new product. The creative process starts with the users – learning about their actions and observing their behaviour to find out their needs. It's about problem finding rather than jumping straight into problem solving because the problem we choose to address might not be the one in need of a solution. We might be solving the wrong problems, and generating solutions that have no impact.

We see some resistance from journalists when faced with design thinking methodology and empathy research. As they (journalists) may go into an interview with the idea that the interviewee will tell them what they want to hear, for example, 'yes, I'm corrupt' rather than exploring and probing more deeply with questions that reveal more human depth, such as if he is a good person, or what things make him happy, sad or afraid!

> I learned through this process – and it has been invaluable to me as a professional and even on the personal level – that my killer feature is field empathy research. At the Babobab Center for refugees, [7] I talked to two girls, and they told me that the only thing they needed were shoes just so they could walk in the winter. Most women refugees at the centre only have sandals and it's November. The next day I came back to the centre and I gave them two pairs of shoes. I felt I connected with those girls, without knowing each other's languages, I played a Daddy Yankee song and we danced. Chile and Eritrea connected through music, the universal language. This is forgetting for a moment the fact that we are journalists and professionals and connect on a human to human basis. This is all thanks to the human-centred design approach shared by Sina Mossayeb and Ed White, the designers from IDEO who've been part of The 19 Million Project. As a journalist, I took the decision to dive into this methodology, stepping out of my comfort zone, getting so many insights. I am changed and I am happy to be given this opportunity of trying a new approach.
>
> Carolina Astuya, Chilean journalist and Chicas Poderosas Ambassador in Chile

The power of human-centred design thinking is something not immediately understood by those who are experimenting with this concept for the first time. It is a process – a process with very well-defined steps that brings people out of their comfort zone and there is often resistance. In order to create change we must change the way we do things. If we always do things the same way, we will have the same outcomes.

> *Once the idea generation ends it's time to group ideas, merging identical thoughts into big clusters. The team will then select the most salient idea and develop it further to present a prototype.*

Discovery

Human-centred design starts by framing problems as opportunities by observing people and their behaviours. Not just what they say, because what people say might be different from what they think, do or feel. This is why observation is so fundamental – we are diving into the human core, and not just a superficial connection, getting what really matters most to people personally, emotionally and immediately. This brings a bigger anthropological approach to the interview process. Interviews are always conducted by groups of three people: one asks questions, the second takes notes, and the third observes the interviewee, noting gestures, facial

expression, reactions. This allows data to be gathered that will serve as insights into How Might We.

The next step is Downloading. This is where the team comes together to write on 'post-its' all the insights they gleaned based on the field research. The team then will come up with a limited and focused number of questions they want to brainstorm on. The questions should not lead to solutions or answers but rather be open and inclusive for opportunities and allow for turning the insights inside out and making them into an operable question for brainstorming. For example How Might We create a safer experience for refugees?

Ideate

Once the team has several How Might We questions then the brainstorm process starts. This is a very fast-paced idea generation sprint that avoids self-judgment allowing you to think big, wild and free, creating a safe space for innovation, and allowing the brain to unblock and generate unexpected ideas. This is where magic happens. In the beginning ideas are pretty raw, but a wild idea can lead to the most authentic and meaningful solution to a problem. There is no critique in this phase but rather a spirit of building on the giant's shoulders. The ideas need to be allowed to exist in this initial phase in order to be able to mature.

Once the idea generation ends it is time to group ideas, merging identical thoughts into big clusters. The team will then select the most salient idea and develop it further. The diversity of the group plays an extra special role here as this brings diversity of thoughts and different points of view. This plays a huge role in the human-centred design approach and is more meaningful and insightful.

Prototype

Pitch comes next. The team presents to the 'public', exposing their ideas to get a fresh 'set of eyes' on their thought process and receive feedback. This is a kind of small reality check as it examines the question, 'is this really addressing the users' needs?' Feedback is extremely important, that is why there is no space for egos in the human-centred design approach. After the pitch, the teams come back together and iterate. The iteration process continues until the prototype phase. At this time, the teams have arrived at a solution that can be implemented.

This methodology is highly used by IDEO, Hyper Island and now recently Heather Chaplin, who has been trying this approach with Journalism+Design.

For The 19 Million Project, human-centred design thinking is extremely meaningful and a game changer in this huge humanitarian crisis. When faith in humanity is lost it is time to allow space for change. Extreme crisis calls for extreme solutions. When the European Union is the first to admit they have a lack of leadership facing this problem, it's time for an extreme approach.

The 19 Million Project was a collaborative effort between Chicas Poderosas, CILD, Fusion, Univision and GEN, bringing together more than 150 journalists, developers, designers, lawyers, humanitarians, and activists from 70+ organisations across 28 different countries to use human-centred design thinking to bring forth change and find solutions to the Mediterranean refugee crisis.

Chicas Poderosas

Using this same philosophy and approach on storytelling, in 2013 I created Chicas Poderosas, a movement to address the lack of power from female voices in the digital world. Here the Internet has another extremely powerful role, as although a huge percentage of investigative journalists in Latin America are women, only a few are extremely savvy in digital production, and what happens in most cases is that a woman

journalist writes her story, and emails it to the IT building, where a web developer, usually a man, makes sure the story gets online. What happens with this is that the woman journalist who wrote the story in first place loses contact with her audience and is unable to track outcomes or follow analytics, a badly needed skill nowadays. The same used to happen in newsrooms where I used to work such as *The Guardian*, where the male developers greatly outnumber women, something along the lines of 90%–10% at the best. This is an issue that I deeply believe needs to be addressed as in order to be powerful and have a voice online, motivating culture exchange and democracy, we need to be able to hear all voices, have a real diversity both in newsrooms as well as in technology, as this is the way we communicate and operate today and forever.

Chicas Poderosas sets out to address the lack of female voices in the digital world, equipping them with technological tools to give them a say and boost their careers.

As I write this, sitting in La Paz, together with Professor Robert Hernandez and Teresa Bouza, I am teaching a group of 60 women journalists, most of them community communicators, from the rural areas of Bolivia how to use Twitter, have an email account, use WhatsApp, YouTube, WordPress, Snapchat, Periscopic etc. They were using only voice recorders – as radio is the main communication tool, due to the lack of connectivity in some remote areas – and we are teaching them how to use options of connectivity such as FireChat[8] to remain connected with each other. This is a huge shift in culture exchange and maintenance of their heritage, as they are the ones keeping their dialects alive and making sure future generations to come will have access to and be able to learn from what they are recording. So these technological tools enabling them to have a blog, share their news on Facebook or engage with communities around the world via Twitter, are of extreme importance. One of our attendees has a Facebook page only in **Aymara**,[9] a native language, so as to keep the culture alive.

Chicas Poderosas have been trying to do exactly this: give voice to women journalists in newsrooms by providing them with technology training and mentorship and empowering them with leadership skills, so as to motivate them to believe in themselves and take a stand, let their entrepreneurial spirit flourish and foster change. Due to cultural heritage, I feel that we [women] need to be told that we can, and to be allowed to make it happen. That's the role of Chicas Poderosas: while using my professional network, we are empowering other women from all across Latina America and soon from the whole world as we move into a global reach with partners like the International Center For Journalists, United Nations, United Airlines, Open Society Foundation and so on.

Chicas Poderosas[10] is bringing women to the forefront of digital journalism. The Chicas initiative is helping women take on leadership roles in their newsrooms, start their own independent platforms and projects, advance their career trajectories and generate timely news stories using open data. The goal: to increase the diversity of voices and encourage women to become news media leaders and entrepreneurs.

The Chicas Poderosas movement empowers Latina women journalists to play more significant roles in the media industry, giving them the tools and support they need to take leadership positions. Through mentoring from leading media innovators, Chicas Poderosas members learn to work in multidisciplinary teams of journalists, developers and designers, and to develop thematic digital stories that resonate with audiences.

Impact

The Chicas movement has facilitated events where women journalists can collaborate with tech, design and thematic experts and use data for in-depth, interactive reporting projects.

- With more than 2,500 members, Chicas Poderosas is forging a network of women journalists across the Americas who have the skills and support to bring diverse voices into newsrooms and the public conversation.
- Over 15 months, Chicas Poderosas held 17 training events, connecting its members with mentors from such cutting-edge media organisations as *The New York Times*, *ProPublica*, *The Guardian*, *NPR*, and *La Nación* (Costa Rica). To date, we have organised Chicas boot camps in Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica, El Salvador, Italy, Mexico, the United States and Venezuela.
- As an outgrowth of the 2015 Chicas Leadership Summit at Stanford University, five locally-led Chicas chapters are starting to form and build a support network across Latin America: Argentina, Bolivia, Brazil, Colombia and Mexico.
- As a result of the Chicas Poderosas movement, teams of Latina journalists, developers and designers have created more than 70 interactive data projects, from visualising the campaign spending[11] of Colombian presidential candidates and creating an app to help citizens verify the claims of 2014 presidential candidates in Costa Rica, to mapping the pollution in Brazil's Guanabara Bay[12] in the run-up to the 2016 Olympic Games.
- Thanks to Chicas Poderosas, women are taking on leadership positions in their newsrooms, improving their career trajectories and spearheading entrepreneurial ventures. As a result:
  - Leading Colombian daily *El Espectador* hired its first developer – a woman – to improve interactive design.
  - *Animal Politico*, a top Mexican online news publication, hired a young Chicas member as its top editor.
  - Another Mexican female participant became the head of the data journalism unit at her country's biggest newspaper, *El Universal*.
  - Chicas Ambassador Carolina Astuya is creating an 'innovation lab' hosted at MQLTV in Chile. In January 2016, the lab will offer workshops on storytelling, mobile, visualisation, microreports and house data and digital content.
  - A Chilean woman became head of digital media at Chilevision, earning $710 more monthly. In 2016, she and her husband will launch *El Soberano*, a digital platform that will allow citizens to contact their local civil society organizations to find critical information on issues such as urban development, crime and water sanitation.

Mariana Santos and ICFJ are committed to strengthening and expanding the Chicas movement in cities and countries across the Americas and helping women become media leaders and influencers in shaping the future of the news industry.

Conclusion

As the world is turning into a huge digital hub, the Internet is the place where most heritage is recorded, where a deep understanding can be gleaned and where it can be attempted to spread it. With globalisation, having a place where culture doesn't get lost, but instead has the opportunity to be re-created and re-invented – the Internet – plays a huge role in connecting people, ideas, cultures and knowledge.

Another point of interest in these digital communities is the power of the hackers who are committed to solving challenges that very often pose social problems in need of an extra hand to address them, such as the transparency of data in governments, access to information for communities and the freedom of expression. We need an open government, so the hackers work on social issues that can really improve society's access to culture.

Endnotes

1. http://www.analysingsocialmedia.org ◂
2. http://fusion.net/story/45832/to-all-the-young-journalists-asking-for-advice/ ◂
3. http://www.globaleditorsnetwork.org ◂
4. http://www.cilditalia.org ◂
5. http://ideo.org ◂
6. http://the19millionproject.com/about ◂
7. http://www.baobabsurvivors.org/pages/what-we-do.php ◂
8. https://vimeo.com/135979388 ◂
9. https://www.facebook.com/ilaies1 ◂
10. http://www.chicaspoderosas.org/?lang=en ◂
11. http://colombian-elections-2014.github.io ◂
12. https://readymag.com/u49401909/sosguanabara ◂

THE ART MARKET IN THE AGE OF ACCESS

Pau Waelder · @pauwl

Palma de Mallorca, 1974

Art critic, curator and researcher. He has a PhD thesis on the information society and knowledge, which explores the interactions between contemporary art, new media and the art market, at the Open University of Catalonia (UOC). His recent projects as a curator include the exhibitions *Realtime. Art en temps real* (Arts Santa Mònica, Barcelona, 2016) and *Data Cinema* (Media Art Futures Festival, Murcia, 2015). He has been a member of the team of curators of the Art Futura festival since 2013. He has contributed to contemporary art magazines *ETC MEDIA* (Canada), *artpress* (France) and *Input* (Spain), among others, and is editor of the Media Art section of the magazine art.es (Spain).

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Contemporary art and digital culture

Social media expert Clay Shirky (2008) states that 'communications tools don't get socially interesting until they get technologically boring. [...] It's when a technology becomes normal, then ubiquitous, and finally so pervasive as to be invisible, that the really profound changes happen' (p. 105). Ever since personal computers started to become popular in the 1980s, followed by the so-called 'digital revolution' of the 1990s, the digital media and particularly the Internet have been increasingly pervading all areas of industrialised societies. Machines that were formerly only found in costly research laboratories or in science-fiction novels are now part of everyday life. The adoption of new technologies has wrought deep changes in the ways much of the population finds information, communicates, has fun or works. As Shirky suggests, technology progressively goes from being interesting for its own sake, as an experiment whose possibilities fascinate specialists, to being used by an increasingly large sector of the population and finally to becoming everyday [**Fig. 1**] . The Internet is a good example of this.

FIG.1: Daniel Canogar, *Storming Times Square* (2014). Site-specific installation in Times Square, New York. Photo: Sofía Montenegro. Courtesy of the artist.

In the art world, the relationship with new technologies over the past five decades has led to friction and distancing, as well as occasional and enthusiastic recognition. The first computer-generated artworks of the 1960s were spurned by the artistic community (Nake, 1971, p. 18), to the extent that, as gallery owner Wolf Lieser states (2010), for years artists regarded art produced with a computer as something that was 'almost degrading' (p. 25). Back then computers were weird, bulky machines to which only a few specialists had access. Incomprehensible and distant, they conjured up the possibility of a dystopic future in which they would replace man and, therefore, the notion that they might generate something as specifically human as a work of art seemed abhorrent. As technology has grown closer to the general public, so has new media art, though the contemporary art world has been particularly loath to accept it, partly because it is heavily geared to technological advances and partly because it is developing in an environment of its own, in thematic festivals and exhibitions.

Closer to the academic environment than the art market, artistic practices linked to the new media did not succeed in making an appearance on the mainstream contemporary art scene until the mid-2000s, by which time digital technologies were more widely embraced in all areas of society, beginning with the development of Web 2.0. platforms and, especially, the social media. According to curator and theoretician Peter Weibel (2006), new media art has struggled to achieve the same degree of recognition as painting and sculpture and has finally succeeded in doing so in what he describes as the 'post-media' age when all the artistic disciplines have been transformed by the digital media (p. 96). Nowadays practically all artists use digital tools in some stage of producing their works or are influenced in some way by the culture they generate, particularly in relation to the content circulating on the Internet. But this does not mean to say that new media art is fully accepted in the art world, or that it is commonly sold in galleries, art fairs or auctions, just as the use of Internet platforms for selling art was not

accepted until only a few years ago. This article examines the changes that have taken place in the contemporary art market over the past five years, paying special attention to the appearance of new platforms and devices and how this market is perceived by Spanish artists who work with the new media. The situation to which the emerging channels for selling and disseminating artworks is giving rise points to the possible appearance of a new market sector.

The online art market

The contemporary art market did not start showing firm interest in the Internet's business potential until the end of the 2000s, and the past five years (2010–15) have witnessed the biggest development in online art sales platforms supported by the main galleries and auction houses. The fact that the mainstream contemporary art market was a latecomer to the Internet is due to several factors, among them the conviction that a work of art can only be appraised 'in vivo' (Lind and Velthuis, 2012, pp. 85–88) and many professionals' reluctance to display the prices of the works on a website (Horowitz, 2012, p. 85). But it should also be pointed out that electronic commerce has been slow and complex to develop (Amazon did not start making a profit until 2002, seven years after it was founded), hindered by the bursting of the dotcom bubble in 2001. It was precisely in the context of this bubble that the first major investments – and losses – were witnessed in contemporary art sales platforms: in 2009 eBay invested 260 million dollars in developing an art section in its auctions platform but was forced to abandoned the project; that year also saw the launch of Eyestorm Media, a website selling limited-edition and original works by artists such as Damien Hirst and Jeff Koons, which was forced to close down in 2002[1] after incurring losses of some 30 million dollars (Horowitz, 2012, p. 88). The artnet platform, one of the oldest dedicated to the art market, launched its online auction section in 1999, but also had to close a few years later after investing more than 11 million dollars. This string of commercial flops ended with the 80 million-dollar loss that Sotheby's is reckoned to have incurred in its attempt to create an online auction section with Amazon, and subsequently eBay, between 2000 and 2003 (Horowitz, 2012, p. 86; Thompson, 2014, pos. 4195). These costly processes of trial and error in a technologically and socially immature environment led galleries and auction houses to pay scant attention to the Internet for nearly a decade.

The art market is seeking business opportunities on the Internet: major galleries use online platforms and clients find all the information online.

However, around 2010 the situation changed, owing once again to a combination of factors related to the global economy and the development of the technological industry. First, the financial crisis of 2008 had a harsh impact on the art market: galleries and auction houses saw their sales plummet and began to seek new markets, chiefly in countries with booming economies but also through new channels. Second, the Internet had experienced an exponential growth in its number of users (more than 500% in a decade) owing chiefly to the development of the social media and Web 2.0. platforms, while improved broadband technology made it possible to view high-resolution images and videos on any device. In 2010 the mainstream contemporary art market returned to pre-crisis prices (Boll, 2011, p. 28) and it started to be common for galleries to sell works to collectors by showing photos on iPads at art fairs or emailing them to their clients (Horowitz, 2012, p. 100). The globalisation of the art market is an additional factor that is leading players to explore the business potential of the Internet: the major galleries, which have sought to broaden their markets by opening branches in other countries, can now reach new customers more sustainably and sometimes more effectively through an online platform. As for

customers, it is becoming increasingly common to purchase all kinds of products online, even luxury objects **[Fig. 2]**, while speculative trends are making it necessary to rapidly glean all kinds of information on the most coveted works and artists. This information can be obtained much more quickly on the Internet than by visiting galleries or art fairs.

FIG.2: Advertisement of VIP Art Fair published in *Artforum* magazine, vol. 51, no. 1, September 2012. Photo: Pau Waelder.

All this has spurred the rapid emergence, chiefly in the past five years, of a variety of online platforms for selling contemporary art, which seek to expand the traditional market or explore new formats. These platforms are not a substitute for galleries and auction houses; rather, they help expand their business: prominent names such as Saatchi, Gagosian, David Zwirner and White Cube support these initiatives, while Christie's, Sotheby's and Phillips currently have online auction platforms. The aim is generally to sell online the same art that can be found in a gallery or auction, and therefore the contemporary art market's newfound interest in digital technologies has not particularly benefited digital art save for a few rare exceptions.

The oldest of these new platforms is **Saatchi Art**[2] (formerly Saatchi Online), which started out in 2006 as a space where any artist could show and sell work at no cost and without the involvement of the gallery of collector Charles Saatchi (Vogel, 2006). Within less than a year, the website attracted more than 70,000 artists, whose sales generated an estimated turnover of 130 million dollars (Edgecliffe Johnson, 2007). This rapid growth prompted Saatchi to renew the site in 2010, charging 30% commission on the sales of its more than 100,000 users and becoming more directly involved in promoting some of them. Although Saatchi's platform appeared to demonstrate the success of online sales, the business incurred constant losses, leading its shareholders to sell it in 2014.[3]
Another initiative that has failed to yield profitable results is **VIP Art Fair**,[4] the first exclusively online contemporary art fair. Between 2011 and 2012 its two editions brought together 138 galleries from 30 countries (among them the prestigious David Zwirner, Gagosian, White Cube and Hauser and Wirth) and attracted between 40,000 and 160,000 visitors. The temporary nature of the event (accessible for several days only) and its format resulted in rather poor sales figures (Thompson, 2014, pos. 4275) which disappointed galleries and prompted the organisers to redesign the fair as a permanent platform that functioned as an intermediary between galleries and collectors. VIP Art never got to develop this aspect, as it was purchased by **Artspace**,[5] a similar platform created in 2011. With approximately 200,000 collectors and several hundred galleries as its clients, Artspace became a reference in the art market. In 2014 it was acquired by Phaidon publishers, and its scope was thus broadened to art publications, museums and collections.

> *The contemporary art market's renewed interest in digital technologies has not particularly benefited digital art save for rare exceptions.*

As well as bringing the art market to the Internet, other initiatives are exploring new forms of accessing works and different sales formats. **Artsy**,[6] a platform with functions similar

to those of Artspace, stems from a project by engineer Carter Cleveland, who in 2010 set out to create an art search engine for art collectors and lovers who couldn't find works they liked or felt intimidated by galleries (Siegler, 2010) **[Fig. 3]**. Initially designed as a social network, under the responsibility of gallery owner Larry Gagosian and other investors it became a platform for collectors of high-level art bringing together 180 galleries in 40 countries (Chayka, 2011). Since 2013, it has also offered art consultancy services and the following year it began hosting online auctions. One feature that sets Artsy apart from other similar initiatives is the so-called Art Genome Project, a system for classifying artworks based on a whole host of characteristics (art movement, subject, forms, colours and many more) which are identified in each piece by a team of art historians. Every work is assigned between 30 and 40 'genes', which allow works to be related to each other on the basis of the number of characteristics they have in common. That way Artsy's database can recommend similar works to users and guide them towards the art they find most interesting. Even so, this project, whose complexity has delayed the launch of the platform, has been progressively shunned in favour of an approach centred more on putting collectors in touch with art galleries.

FIG.3: 'In gallery' preview of a work on sale on the Artsy platform.

Sedition[7] is currently the initiative that pays the most attention to the digital media's potential for publicising and selling artworks. Founded at the end of 2011 by gallerist Harry Blain, former owner of Haunch of Venison, and Robert L. Norton, former director of Saatchi Online, the platform attracts the attention of the media by offering 'digital editions' by artists such as Damien Hirst or Tracey Emin for between 10 and 15 euros **[Fig. 4]** . Sedition sells photos and videos in digital format in editions of up to 10,000 copies at very affordable prices. Even so, the works are not acquired as such by the purchaser but remain on Sedition's server and can be viewed through a web browser or applications for smartphones and tablets. Although the platform was initially centred on acclaimed artists, it has progressively incorporated digital artworks by young artists such as Casey Reas, Aaron Koblin, Matt Pike and Rafaël Rozendaal. The format proposed by Sedition makes more sense in the case of works designed to be viewed on a computer screen, though the limitations of its digital editions pose certain problems. The main disadvantage is that collectors do

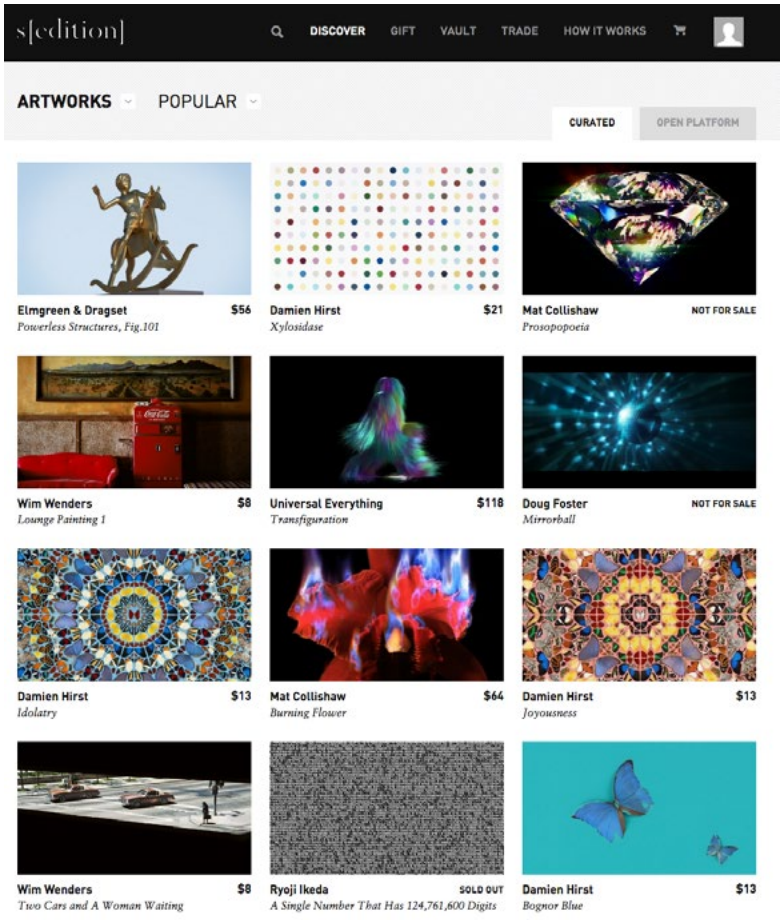

FIG.4: Section of popular works in Sedition's catalogue, with their respective selling prices.

not actually possess the work but depend on Sedition to view, preserve and even resell it. The platform's director, Rory Blain, states that collectors feel they own a work when they are able to sell it (Waelder, 2014, p. 54), but they can only do so after all the copies of a limited edition have been sold on the market established by Sedition in a section of its website. This particular feature of the business model arouses doubts as to Sedition's continuity, even though it currently enjoys an active presence in the contemporary art world.

In the field of auction houses, **Paddle8**[8] is an initiative that explores the benefits of organising auctions exclusively online. Founded by Alexander Gilkes, chief auctioneer at Phillips, and entrepreneur Aditya Julka, it soon enlisted the support of a powerful group of investors including gallerist Jay Jopling and artist Damien Hirst (Gamerman, 2013). Paddle8 focuses on auctions of artworks and design objects priced below 100,000 dollars, which are not usually included in traditional auctions as shipping and insurance costs make selling them unprofitable. By eliminating these costs, the platform can organise riskier sales, such as the three auctions of digital art it hosted between 2013 and 2014.[9] These auctions, held for charity, attracted the media's attention to Paddle8, and therefore turned out to be more profitable in terms of publicity than sales.[10] Paddle8's foray into digital art showed that collectors continue to be more interested in traditional formats.

More and more art is being sold over the Internet, the online art market grew from one billion dollars in 2013 to 2.64 billion in 2015 and could reach 6.3 billion dollars by 2019.

The online art market can be considered to be booming, as **Amazon**,[11] one of the leading ecommerce firms, has been selling artworks since 2013. The way Amazon presents works on its website (in the 'Home and garden' section) contrasts with the methods of other platforms, as the items (priced between 44 dollars and 4.8 million dollars) are advertised in the same manner as any other consumer product.[12] Nevertheless, Amazon currently sells more than 40,000 works for 150 galleries, indicating that the latter basically want an effective distribution channel that reaches a broader public. Indeed, more and more art is being sold online, through ecommerce websites like Amazon and more sophisticated platforms. According to the Hiscox Online Art Trade Report compiled by the art market research firm ArtTactic since 2013, the global online art market grew from one billion dollars in 2013 to 2.64 billion in 2015 and could reach 6.3 billion dollars by 2019 (ArtTactic, 2015, p. 5). Even so, this upward trend in art sales conducted through digital devices does not mean that interest in digital art itself is growing: according to this report, painting continues to be collectors' favourite format (62% of customers of the web platforms purchased a painting), followed by limited-edition work (53%), photographs (35%), drawings (31%) and sculptures (22%). Only 10% bought work in digital format. The highest price fetched by an artwork sold online continues to be modest (less than 12,000 euros), but the high number of potential buyers indicates that profits will be sizeable (ArtTactic, 2015, pp. 6–19).

Art in a digital frame

The platforms that extend the reach of the online art market and the initiatives that explore alternative ways of selling works were recently joined by new devices that make it possible to show and collect art in digital format. These are digital picture frames: high-resolution screens incorporating a PC and wireless Internet connection and designed to be hung on the walls of collectors' homes **[Fig. 5]** . The content of these frames is controlled by a smartphone application featuring a store where users can acquire works to display on the screen. Artworks can thus be experienced in a similar way to how people currently consume films, books and music on the many payment platforms that exist in the

market. To prevent them from being mistaken for TV sets and give them a similar appearance to framed artworks, these screens generally have a wooden frame (or even a passpartout) and in some cases they can only be hung vertically. Even so, the buyer does not acquire a framed work but first buys the frame and then the art to be adapted to this format.

FIG.5: Promotional image of the DAD digital frame showing *Schwarm* (2014) by Andreas Nicolas Fischer. Photo: Emin Sassi. Courtesy of DAD, the Digital Art Device.

In 2014 and 2015, various companies began selling digital picture frames designed to grace the walls of art collectors and enthusiasts' homes, offices and studios. Although each firm caters to a relatively differentiated sector of the public, they all base their business model on selling a device of their own and a collection of artworks created or adapted to the device.

The first company to launch a digital picture frame was **FRM** of Japan,[13] founded by engineer Yugo Nakamura and producer William Lai. Its first product, FRAMED 1.0, was a 55-inch screen with an inbuilt webcam and microphone that was released onto the market in 2012. The screen could originally only be hung vertically and came with functional pieces such as series of animations that displayed the time. In 2014 a second version was launched through a crowdfunding campaign, this time in two sizes (24 and 40 inches); it could be hung vertically or horizontally and was equipped with sensors for interaction with the frame. Targeted chiefly at an audience interested in technology and design, the screen was presented at the MoMA Design Store in New York and began to be distributed in 2015.

New devices make it possible to show and collect art in digital format. Digital picture frames are high-resolution screens incorporating a PC and wireless Internet connection.

Another newly created company is **Electric Objects**,[14] founded in New York in 2014 by Jake Levine (former director of the website Digg.com) with a share capital of 1.7 million dollars provided by a group of investors. The digital art display developed by Electric Objects, called EO1, is a vertical 23-inch screen incorporating a computer and wireless connection. Unlike FRAMED, it does not allow direct interaction or have loudspeakers and is designed to show fixed or moving images without sound. The company has paid special attention to the selection of work that can be shown on its screen, focusing on emerging artists, illustrators, designers and videogame developers in order to attract younger collectors in particular.

New York is also home to **Meural**,[15] a firm founded in 2014, which in April 2015 advertised its digital canvas aimed at a large audience. Consisting of a 27-inch screen with built-in PC in a wooden frame, Meural's device offers a broad selection of images of classical and contemporary art through its collaboration with museums, galleries, image banks and platforms such as Sedition. Instead of selling these images, the company offers access to its collection in exchange for a monthly subscription.

Depict,[16] founded in San Francisco in 2013, began by developing its art collection, which its clients can access via streaming on any TV with an Internet connection. In January 2015, thanks to the 2.4-million dollar share capital put up by a group of investors, it developed its own device, a 50-inch screen with 4K resolution (UltraHD) equipped with a multimedia player and WiFi connection. Depict's clients can pay a

subscription fee to access its art collection and can also purchase certain limited-edition works. The size and resolution of its screen, which has a wooden frame and passpartout, is one of the most salient features of Depict.

Lastly, DAD (the Digital Art Device)[17] has been launched by gallerist Carlos Cárdenas and entrepreneur Vincent Justin. Based on their experience in contemporary art and luxury hotels, they have developed in France a system that includes two devices (a 42-inch screen and a multimedia player) and a subscription to curated exhibitions (which are displayed on the screen), as well as a collection of works sold in limited editions.

With subscription services, clients pay for access to content they can display comfortably on their screen or replace it with others as they wish.

Most of these companies have launched their products in a manner comparable to platforms like iTunes and Spotify, proposing a form of consuming art similar to that of music or films, where customers pay for access to content that can be displayed conveniently on their screen and can replace it with others as they wish. Works can also be purchased – usually in editions of hundreds or thousands, for very low prices (except DAD, which is targeted at high-level collectors). As stated earlier, in these cases the frame is the most important element and defines the content, as each of these devices is associated with a selection of works (though in many cases it is possible to show other content uploaded by users or extracted from the Internet). Digital art frames started to be widely sold in September 2015, and it is therefore too soon to ascertain their impact on the art market and their popularity with collectors and other buyers. Nevertheless, they offer a new means of acquiring, collecting and experiencing art in digital format.

New media artists vis-à-vis the art market

A survey conducted on 14 Spanish artists[18] born between the mid-1960s and mid-1980s provides an overview of how these creators, who work with new media, regard the influence of the contemporary art market on their professional career. Hailing from different Spanish cities, more than one-third currently live in other European countries such as France, Belgium, Germany, Austria and Estonia. They have all taken part in international exhibitions at museums, art centres and festivals and have received many grants and prizes. Five of them have won VIDA awards at the art and artificial life international competition promoted by Fundación Telefónica between 1999 and 2015, while most have taken part in or received a distinction at the prestigious Ars Electronica festival held in Linz (Austria). Despite having pursued, or just started out on, brilliant professional careers, very few of these artists enjoy a presence at galleries and art fairs.

Most of them feel that the role played by the art market in their professional career is 'tangential', 'low-key' or even negative.[19] Some artists, such as Félix Luque[20] and Néstor Lizalde,[21] point out that the format of their works is not suitable for galleries, as it entails high production and development costs **[Fig. 6–7]**. Others, such as Guillem Bayo[22] and Pablo Valbuena,[23] believe the market demands certain formats that limit artists' creativity and are not always in keeping with their interests. In the opinion of Mar Canet and Varvara Guljajeva,[24] securing a place in the art market has entailed a substantial financial investment that they have not managed to make profitable. Clara Boj and Diego Díaz[25] believe that their way of working, centred on experimentation and processes, 'clashes head-on with [the] idea of art that the market proposes'. This opinion is shared by Patxi Araujo[26] and Moisés Mañas,[27] who are more drawn to working in an environment of academic research. Striking a happy medium, Daniel Palacios[28]

focuses on producing projects specifically on commission: 'I've always regarded my studio as a production agency of which I'm the main customer. Profits from a project are reinvested in the studio and in new experimental projects, so that it increasingly has a higher production capacity and is more independent. That way I've been able to produce work for clients like Nike or the London Science Museum'. In contrast to nearly all the interviewees, who spoke of misgivings or difficulties posed by the art market, **Daniel Canogar**[29] says he strikes a balance between more experimental projects and pieces adapted to galleries' requirements: 'My studio survives thanks to the market. Certain works that function on the art market help me fund other projects that are more difficult to find an outlet for, but [that] I don't want to stop working on. I've come to terms with having to produce limited editions, issue certificates of authenticity and other important details so as to secure a place on the art market playing field. I'm easy about it, and don't have any remorse or an uneasy conscience'.

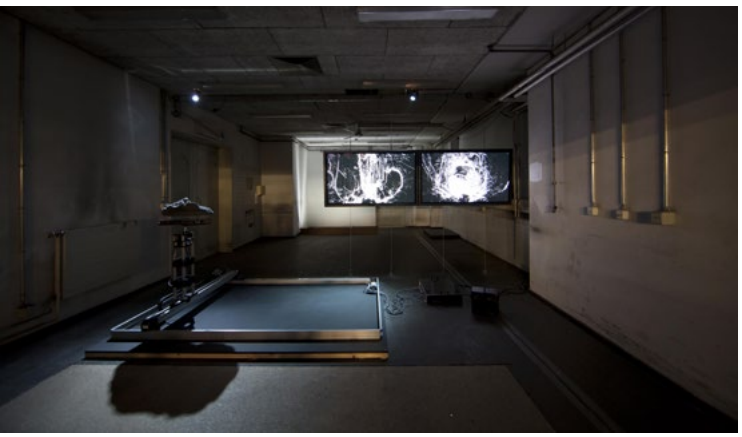

FIG.6: Félix Luque and Íñigo Bilbao, *Memory Lane* (2015). Installation presented at the *Naked Veriti* exhibition at the Ars Electronica festival, Linz. Photo: Félix Luque. Courtesy of the artists.

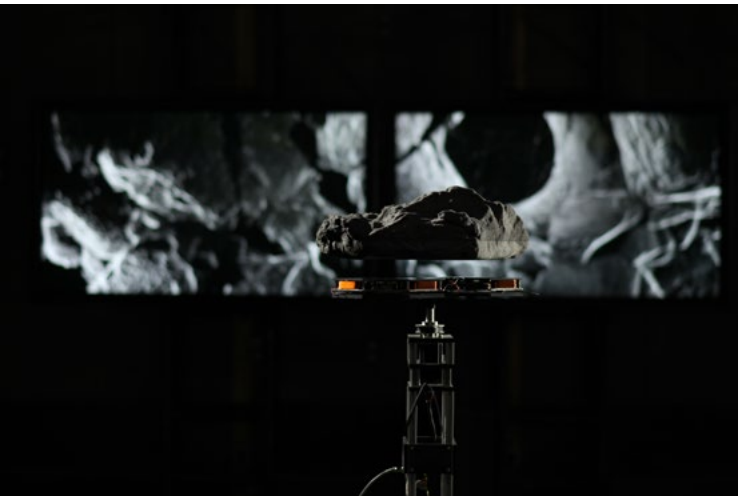

FIG.7: Félix Luque and Íñigo Bilbao, *Memory Lane* (2015). Detail of the installation showing a 3D impression of a rock levitating above electromagnets. Photo: Félix Luque. Courtesy of the artists.

Digital art festivals and exhibitions at museums and art centres continue to be the most favourable environment for showing digital artworks.

Being in the art market entails adapting to requisites established for traditional formats such as painting, sculpture and engraving, which conceive the artwork as a unique end product. The challenges posed by works based on processes of calculation and technologies subject to built-in obsolescence are hardly compatible with the traditional models of art sales and collecting. Therefore, the market, currently in the process of assimilating digital technologies in all areas of society, remains reluctant to fully accept digital art. The artists interviewed generally note that the presence and acceptance of digital art in the art world are growing (especially in blogs and online communities) to the extent that, as **Jaime de los Ríos**[30] states, 'contemporary art has embraced media art and therefore there's no need to stress it with a special category'. This situation contrasts with a market that is conservative, reluctant or even 'resistant to digital'. Specifically, the art market in Spain is described as 'poor' or even 'bleak' and compares unfavourably with the situation abroad, though according to Clara Boj and Diego Díaz new media artists also have many difficulties gaining a market foothold in other countries. Daniel Canogar is the only one not to take such a negative view of the market, pointing out that in Spain there are 'a host of collectors who are very faithful to the national scene', though he admits that it is difficult to find buyers for works costing more than 20,000 euros.

With respect to market presence, mention should be made of the attention that the

international contemporary art fair ARCO Madrid has been paying to digital art (somewhat inconsistently) for the past decade or so, devoting a specific space to it between 1998 and 2009.[31] Although limited, this inclusion of digital art in the art fair has been received with scepticism by artists and specialised gallerists alike, who believe that the 'Black Box' into which new media works were grouped has had a somewhat negative effect.[32] The contradiction of giving visibility to this kind of art and at the same time relegating it to a separate space, distinct from that of contemporary artworks, is pointed out by the artists interviewed, who regard positively the fact that sections of this kind are included in art fairs but see no need to establish dividing lines, as ultimately they do not facilitate its incorporation into the market. Indeed, some of the younger artists, such as **César Escudero**[33] and **Mario Santamaría**,[34] admit to not knowing about spaces of this kind at art fairs and are more interested in the festivals circuit or the possibilities of disseminating their work online.

Digital art festivals and exhibitions at museums and art centres continue to be these artists' favourite environments for showing their work [**Fig. 8**]. As stated earlier, most of them have taken part in, or won prizes at, various festivals, among them the prestigious Ars Electronica. Nevertheless, this festival is criticised by some of them, who feel it is no longer an interesting showcase for new media art. The festivals circuit provides the greatest visibility, yet at the same time it confines artists' work to a field that is largely ignored by the art market. This is happening at a time when cultural institutions' funding has drastically fallen, damaging the fabric of the communities and creative spaces that used to support the production of new media art. Jaime de los Ríos remarks that 'it's curious how in just a few years we've lost so many open production spaces, so many artists that we don't know where they work [...]. For example, I remember the team at Lummo, with Mar Canet related to Medialab, Arteklab with Arteleku, Noish and Minipimer with Hangar'. Canet himself underlines this country's creative potential and the separation between the different sectors: 'Spain is a digital art power and would be even more visible if there were more financial assistance. [...] Artists who show their work in museums are often totally unknown to gallerists, and vice-versa. The playgrounds are quite separate.'

FIG.8: Varvara Guljajeva and Mar Canet, *Wishing Wall* (2014). Interactive installation presented at the exhibition Digital Revolution, The Barbican Centre, London. Photo: Andrew Meredith. Courtesy of Google DevArt and the artists.

Therefore, the situation faced by artists can be summed up as: should I carry on showing my work in exhibitions, with less visibility and involvement in the art market, or should I adapt my works to galleries' requirements in the hope

that a new generation of collectors will pay more attention to me? The new distribution platforms and frames for digital art (commented on earlier) are not a feasible solution: most of the artists spoken to found them interesting, but consider that having to adapt their work to the technical requirements of these devices is a disadvantage and they are not convinced that these products are underpinned by a sound market.

The Internet makes it possible to analyse and supply all the quantitative data on works and artists so as to offer collectors reports on market trends.

Conclusions: towards a third art market

The progressive introduction of new channels for disseminating and selling artworks and the alternative ways of selling art in digital format may trigger deep changes in a market anchored to old structures. The art market is characterised by information asymmetry (Moulin, 2010, pos. 40–46): the symbolic value of an artwork is known by those who play an active role in the sector and it is therefore not clearly accessible to the public at large, whereas its financial worth tends to be kept quiet except for the astronomical figures published by auction houses, which give rise to a distorted view of the economy of art. The prices of artworks have a decisive influence on their appreciation and the artist's reputation, and they therefore undergo precise manipulation (Velthuis, 2007). This control over the information is lost on the Internet: online sales make it necessary to provide the potential (and anonymous) buyer with as much information as possible about artworks, including their price.[35]

Furthermore, quantitative data on works and artists (prices fetched at auctions, number of exhibitions, etc.) are analysed by companies that offer collectors' reports on market trends. The growing importance of the financial aspect of art is leading to the adoption of practices characteristic of stock markets, as artists and works are viewed as securities to invest in and speculate with.[36]

FIG.9: Promotional image of Sedition showing *Prosopopeia* (2014) by Matt Collishaw on a user's PC. Courtesy of Sedition.

In addition, the value of a work of art has traditionally been based on its rarity as a unique object. Reproductions of a particular work have only been allowed in limited numbers, and number of copies is a factor that influences the value of the work. However, with photography and video, works are adopting formats that permit a large number of reproductions. In the case of digital works, there are no limitations on their reproduction, as each copy is identical to the original and the cost of duplication is next to nothing. Instead of being sold as a unique object with a high price, a digital artwork can thus be

distributed massively at affordable prices in a similar way to films, books and music in digital format. This is the strategy pursued by platforms such as Sedition and the digital picture frames commented on earlier **[Fig. 9]**. It may be inferred from the Hiscox report that artworks sold online do not fetch very high prices, but there is a larger volume of potential buyers. This situation points to the possibility of a 'third market' targeted at a large segment of consumers interested in acquiring but not reselling art, who pay more affordable prices for less exclusivity (as large numbers of copies of each work are sold). These collectors acquire the right to access the works, which remain on the servers of the companies that supply them. As with other cultural products, art is becoming part of what Jeremy Rifkin (2000) calls the 'age of access' in which 'markets give way to networks' and objects are no longer purchased; instead we pay for access to a service or experience (p. 6).

For new media artists, the changes wrought in the market by these platforms and devices do not automatically signify greater interest in their work, but they are establishing a context in which works in digital format can achieve greater recognition and enjoy a certain advantage. If, as gallery owner Steve Sacks states, in the future art collectors will have screens for displaying the items they have acquired (Waelder, 2010a, p. 71), it is only logical to assume that works created for these devices will be more widely accepted. At the same time, as we become used to living with digital devices, works that employ this technology will no longer seem aberrations but expressions of the art of our time. All in all, as Clay Shirky points out, the digital media need to be 'boring' enough for a spectator gazing at a picture on a screen to see not a technological device but a work of art.

Bibliography

ArtTactic (2015). 'The Hiscox Online Art Trade Report 2015'. *ArtTactic*. Retrieved from http://www.arttactic.com/market-analysis/art-markets/us-a-european-art-market/699-hiscox-online-art-trade-report-2015.html

Boll, D. (2011). *Art for Sale. A Candid View of the Art Market.* Ostfildern: Hantje Cantz.

Chayka, K. (2011, 3 November). 'Art Sales Tech Start-Up Art.sy Raises a New $6 Million in Funding'. *Artinfo*. Retrieved from http://blogs.artinfo.com/artintheair/2011/11/03/art-sales-tech-start-up-art-sy-raises-a-new-6-million-in-funding/

Gamerman, E. (2013, 7 November). 'Online Art Collecting Finds Its Footing'. *The Wall Street Journal*. Retrieved from http://www.wsj.com/news/articles/SB10001424052702303376904579135850288529912

Horowitz, N. (2011). *Art of the Deal: Contemporary Art in a Global Financial Market*. Princeton and Oxford: Princeton University Press.

—(2012) 'Internet and commerce'. At M. Lind & O. Velthuis (eds.). *Contemporary Art and its Commercial Markets. A Report on Current Conditions and Future Scenarios* (pp. 85–112). Berlin: Sternberg Press.

Johnson, P. (2014, 2 July). 'The Truth About the Murky Online Art Market'. *Artnet news*. Retrieved from https://news.artnet.com/market/the-truth-about-the-murky-online-art-market-53811

Lieser, W. (2010). *The World of Digital Art*. Potsdam: h.f.Ullmann.

Lind, M. and Velthuis, O. (2012) (eds.). *Contemporary Art and its Commercial Markets. A Report on Current Conditions and Future Scenarios* (pp. 17–50). Berlin: Sternberg Press.

Moulin, R. (2010) *Le marché de l'art. Mondialisation et nouvelles technologies* [Kindle ebook]. Paris: Flammarion.

Nake, F. (1971). 'There should be no Computer Art'. *Bulletin of the Computer Arts Society*, 18–19. Retrieved from http://www.bbk.ac.uk/hosted/cache/archive/PAGE/PAGE18.pdf

Rifkin. J. (2000). *The Age of Access. The New Culture of Hypercapitalism, Where All of Life is a Paid-for Experience.* New York: Penguin Putnam.

Shirky. C. (2008) *Here Comes Everybody. The Power of Organizing Without Organizations*. New York: Penguin Books.

Siegler, MG. (2010, 25 May). 'Screw the Gallery, Discover the Next Great Picasso at Art.sy'. *TechCrunch.* Retrieved from http://techcrunch.com/2010/05/25/artsy

Thompson, D. (2014). *The Supermodel and the Brillo Box. Back Stories and Peculiar Economics from the World of Contemporary Art* [Kindle ebook]. New York: Palgrave Macmillan.

Velthuis, O. (2007). *Talking Prices. Symbolic Meanings of Prices on the Market for Contemporary Art.* Princeton: Princeton University Press.

Waelder, P. (2010a). '*Media art* y el mercado del arte: entrevista a Steve Sacks'. *art.es,* (38), 68–71.

— (2010b). '*Media art* y el mercado del arte: entrevista a Wolf Lieser'. *art.es*, (39–40), 114–17.

— (2011). '*Media art* y el mercado del arte: entrevista a Magdalena Sawon y Tamas Banovich'. *art.es,* (44), 68–71.

— (2013). 'Carroll/Fletcher: Art beyond Medium'. *ETC Media*, (101), 35–39.

— (2014). 'Collecting art in the age of access: interview with Rory Blain, director of Sedition'. *ETC Media* (102), 52–61.

Weibel, P. (2006) 'The Post-Media Condition'. In *Condición Postmedia* (90–100). Madrid: Centro Cultural Conde Duque.

Willet, M. (2013, 7 August). 'Amazon Is Selling This $1.45 Million Monet In Its New "Fine Art" Section, And The Reviews Are Hilarious'. *Business Insider*. Retrieved from http://www.businessinsider.com/comments-on-amazon-art-2013-8

10 online resources

Art Tactic – http://www.arttactic.com/
The Art Newspaper – http://theartnewspaper.com/
Rhizome – http://rhizome.org/
Artsy – http://www.artsy.net/
Artspace – http://www.artspace.com/
Hyperallergic – http://hyperallergic.com/
We Make Money Not Art – http://we-make-money-not-art.com/
Neural – http://neural.it/
Art Matters – http://artmatters.blogs.uoc.edu/
Talking Galleries – http://talkinggalleries.com/

10 Twitter profiles

@georginaadam
@KellyCrowWSJ
@wmmna
@NoahHorowitz
@artfagcity
@_neural
@ElectricObjects
@aservais1
@ArtTactic
@artmarkettech

Endnotes

1. Eyestorm was later relaunched on a smaller scale and was acquired by a group of investors in 2011. It currently continues to sell limited-edition art. 'About', *Eyestorm.* http://www.eyestorm.com/pages/AboutEyeStorm.aspx ◂

2. Saatchi Art, http://www.saatchiart.com ◂

3. 'Saatchi Online: Graceful Exit, Miserable Returns', *Skate's,* 27 October 2014. http://www.skatepress.com/market-notes/saatchi-online-graceful-exit-miserable-returns/ ◂

4. VIP Art Fair was at www.vipart.com, which no longer exists. ◂

5. Artspace, http://www.artspace.com ◂

6. Artsy, https://www.artsy.net ◂

7. Sedition, http://www.seditionart.com ◂

8. Paddle8, https://paddle8.com ◂

9. The auctions Paddles ON! (http://paddle8.com/auction/paddleson2013), Born Digital (http://paddle8.com/auction/linkart) and Paddles ON! London (http://paddle8.com/auction/paddleson). ◂

10. According to various sources (Galperina, 2013; Cardenas and Justin, 2015, pp. 55–56), the Paddles ON! Auctions totalled 90,600 dollars and 83, 500 pounds sterling, insignificant sums compared to the turnover ofPaddle8, which amounted to 50 million dollars in 2013 (Johnson, 2014). ◂

11. Amazon Art, http://www.amazon.com/Art ◂

12. This particular characteristic sparked criticism when Amazon launched its art section (Willet, 2013). ◂

13. FRM, http://frm.fm ◂

14. Electric Objects, http://www.electricobjects.com ◂

15. Meural, http://www.meural.com ◂

16. Depict, http://www.depict.com ◂

17. DAD, the Digital Art Device, http://dad.digital ◂

18. Artists Daniel Canogar (Madrid, 1964), Patxi Araujo (Pamplona, 1967), Moisés Mañas (Alicante, 1973), Clara Boj and Diego Díaz (Murcia, 1975), Guillem Bayo (Barcelona, 1976), Félix Luque (Oviedo, 1976), Pablo Valbuena (Madrid, 1978), Néstor Lizalde (Zaragoza, 1979), Mar Canet (Barcelona, 1981), Daniel Palacios (Córdoba, 1981), Jaime de los Rios (San Sebastián, 1982), César Escudero (Ávila, 1983) and Mario Santamaría (Burgos, 1985) answered a list of questions emailed to them in December 2015. ◂

19. The citations in this and the following paragraphs are taken from the answers supplied by the artists to the author of this article. ◂

20. Félix Luque (Oviedo, 1976) is a Brussels-based artist who works with the aesthetic of cutting-edge technology and develops complex installations which have been shown internationally. Among the distinctions he has received are a Mention of Honour at the Ars Electronica festival (Linz), a nomination at the transmediale festival (Berlin) and a production prize at the VIDA competition. http://felixluque.com ◂

21. Néstor Lizalde (Zaragoza, 1979) bases his artistic practice on experimenting with new media, drawing on his academic background. He has shown his work, characterised by interactive installations, at various exhibitions, festivals and art galleries, chiefly in Spain. He recently took part in a group exhibition at Ars Electronica together with Félix Luque and Pablo Valbuena, with the collaboration of AC/E. http://nestorlizalde.com ◂

22. Guillem Bayo (Barcelona, 1976) has pursued his professional career mainly in Spain, showing works created using digital technologies at exhibitions of contemporary art in museums, art centres and galleries. Among the prizes he has received is an award at the VIDA 8.0 competition. http://www.guillembayo.net ◂

23. Pablo Valbuena (Madrid, 1978) mainly works on site-specific installations combining real and virtual space. He has shown his work in large-format projects in public space and in museums, art centres and galleries in many countries. Among the

awards he has received are a Mention of Honour at Ars Electronica. He lives in Toulouse (France). http://www.pablovalbuena.com ◂

24. Mar Canet (Barcelona, 1981) has worked with Varvara Guljajeva since 2009 developing art and new media projects, in interactive installations, interventions in public spaces and interventions combining art and design, such as the Knitic machine. They were recently chosen by Google to develop the interactive piece Wishing Wall as part of the DevArt project. With a background in art, design and videogame development, Canet is cofounder of the Derivart and Lummo groups. He lives and works in Tallin (Estonia). http://www.mcanet.info ◂

25. Clara Boj and Diego Díaz (Murcia, 1975) have worked together since 2000 on projects that bring new technologies to the public space. They have been awarded various research grants by centres such as the Interface Culture Lab in Linz (Austria), Symbiotic System Lab in Kyoto (Japan) and the Interaction and Entertainment Research Center in Singapore. They both have doctorates and teach at the universities of Murcia and Castellón. http://www.lalalab.org ◂

26. Patxi Araujo (Pamplona, 1967) focuses his work as an artist on the meeting ground between new technologies and the performing arts, combining it with teaching at the Department of Art and Technology of the Faculty of Fine Arts at the University of the Basque Country. http://patxiaraujo.com ◂

27. Moisés Mañas (Elda, Alicante, 1973) has shown his work at many digital art festivals as well as in museums and art centres and has focused his career on the academic environment, earning a doctorate in Visual Arts and Intermedia from the Polytechnic University of Valencia. He has completed research residencies in Europe and the United States. http://www.hibye.org ◂

28. Daniel Palacios (Córdoba, 1981) has presented his work at various international museums, festivals and art fairs, producing works on commission for private collections and institutions such as the Centro Andaluz de Arte Contemporáneo and the London Science Museum, as well as companies such as Nike. His Berlin studio currently offers the possibility of specific projects, adaptations or new productions of his projects on commission. http://danielpalacios.info ◂

29. Daniel Canogar (Madrid, 1964) is an artist with a sound track record who has shown his work both in large installations in the public space (such as the recent Storming Times Square, in New York) and in exhibitions in museums and galleries. He is currently represented by the Max Estrella (Madrid), Guy Bärtschi (Geneva), Mimmo Scognamiglio Artecontemporanea (Milan) and bitforms (New York) galleries. He has been artistic director of the VIDA contest and has written various essays on architecture, photography and new media art. http://www.danielcanogar.com ◂

30. Jaime de los Ríos (San Sebastián, 1982) is an active artist and founder of the open Art and Science laboratory ARTEK[Lab] who has worked in collaboration with other artists, institutions such as Arteleku and festivals like ArtFutura. He recently completed a project with French artist Sylvie Balestra as part of AC/E's programmes of residencies. http://www.arteklab.org ◂

31. In 1998, ARCO introduced the ARCO Electrónico selection, which was replaced in 2000 by Netspace@ARCO, which lasted until 2002. In 2005, the space was again presented as Black Box and in 2008 it was renamed Expanded Box, with separate sections for video art and digital art. Expanded Box was discontinued in 2010. ◂

32. The directors of Postmasters (New York), Carroll/Fletcher (London), bitforms (New York) and DAM (Berlin), galleries specialising in digital art, criticise the creation of a separate space at art fairs such as Black Box at ARCO (Waelder, 2010a, p. 71; Waelder, 2010b, p. 117; Waelder, 2011, p. 68; Waelder, 2013, p. 37). ◂

33. César Escudero (Ávila, 1983) focuses on studying interfaces, based on his academic grounding in architecture and design at Salamanca University and

in visual arts and multimedia at Valencia University, and his current research at Interface Culture Lab of Linz University. His work has been shown internationally at art centres and festivals and in online exhibitions. http://escuderoandaluz.com ◂

34. Mario Santamaría (Burgos, 1985) has carried out artistic research in various residencies in Europe and has shown his work in group exhibitions at art centres and festivals, as well as art galleries. Focusing particularly on platforms such as Google Art Project and other online resources, his projects include curating online exhibitions. http://www.mariosantamaria.net ◂

35. The prices of the works are available on the main sales platforms for contemporary art referred to in this article, though in some cases (particularly acclaimed artists) galleries prefer to supply prices on request. ◂

36. An illustrative example is the controversial website ArtRank, which every four months publishes a list of artists in whose work they recommend investing. It initially included a selection of artists whose works it advised 'selling or liquidating', but this section has been eliminated from the reports they publish. http://artrank.com ◂

HOW THE PERFORMING ARTS ARE CHANGING IN THE DIGITAL AGE

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Overture
From empty spaces... to virtual corridors

'Changing the answer is evolution. Changing the question is revolution.'
Jorge Wagensberg

I'm freaky and geeky in many ways – to the point of describing myself with those words. But above all because I'm a fervent reader of the aphorisms of Jorge Wagensberg,[1] especially the one I've chosen to head this article. Because I want to propose we take a look at some of the digital experiences that are changing the performing arts and live shows. But also because I'm keen to share with readers some of the many significant questions on how this change is taking place. Will you join me?

It was Peter Brook[2] who opened our eyes to the importance of the empty space in the performing arts at the height of the twentieth century: 'I can take any empty space and call it a bare stage. A man walks across this empty space whilst someone else is watching him, and this is all that is needed for an act of theatre to be engaged.'[3] How is this statement relevant when digital and virtual are part of the same stage dimension? Where do creative spaces begin and end when the physical dimension and the virtual dimension are constantly merged?

In the age of co-creation, the dispersion of authorship in the performing arts coexists alongside the pre-eminence of reference author and influencer, as well as that of prosumer audience.

The fact is that in our 'liquid modern world' even Zygmunt Bauman[4] preaches that culture 'no longer has a "populace" to enlighten and noble; it does, however, have clients to seduce'.[5] And this seduction is enhanced by the spectacular effect of culture when it comes in contact with digital. Because, although the essential part is the conversation, as advocated by the visionary authors of the *Cluetrain Manifesto*[6] – recently updated with *New Clues*[7] – the new paradigm of communication, described in the *Onlife Manifesto*,[8] is conditioned by four changes of far-reaching significance in social relations that undoubtedly also affect how the performing and live arts are analysed:

a) the fading of the boundaries between real and virtual;

b) the disappearance of the boundaries between human being, machine and nature;

c) the progression from scarcity to information overload;

d) and the transition from the primacy of things to the primacy of interactions.

Act I
From 'to be or not to be'... to 'to co-create or not to co-create'

In the age of co-creation, the dispersion of authorship in the performing arts coexists alongside the pre-eminence of reference author and influencer, as well as that of prosumer audience... Who – or even what – is the creator now? Should we talk of egos, teams, machines, hybrid formulas? To what extent is the multiplicity of communication and dissemination channels conditioning the transmedia conceptualisation of shows? Do these circumstances signify the advent of new types of storytelling and playwriting? Will Creative Commons[9] attain a hegemonic status in protecting/sharing creative work?

- If we consider new forms of authorship, issues such as the materiality of the human body are triggering the emergence of cases like musician Guy Ben-Ary and his project entitled CellF,[10] 'the first neural synthesiser', which enables him to compose with his own stem cells.

- Even in the field of wearables, we can draw attention to experiments such as the 'Mi. Mu'[11] gloves devised by Imogen Heap, based on the use of light and movement sensors to interpret various hand gestures and convert them into sounds produced by all kinds of instruments.
- A striking example is the transmedia musical *Beyond the Fence*,[12] which features a computer-generated plot and music in a process in which various international research centres have been involved, taking as a basis predictive Big Data on recipes for success in hit musicals.

Promotional poster for the musical *Beyond the Fence*

- There are many examples of networked performances in which stage actors and writers come together in different spaces, connected online, to perform a single show in real time. Kònic Thtr - Kòniclab is one of the most active groups in this combination of performing arts and technology, for example in the experiment *Near in the distance 2*,[13] which involved artists in Barcelona, Judenburg, New York, Prague and Vienna.
- The Philharmonic Orchestra of Copenhagen has started up an Internet symphonic orchestra, the World Online Orchestra[14] made up of musicians from all over the world, in order to democratise symphonic music and make it familiar by bringing people into direct, personal contact with it. A similar experiment was carried out in the New York subway by composer Ljova, who grouped together various street musicians online to create the first WiFi orchestra in *Signal Strength*.[15]

Experiment *Near in the distance 2* by Kònic Thtr - Kòniclab

Act II
From fourth wall... to fourth dimension

Bodies and bodily forms in movement

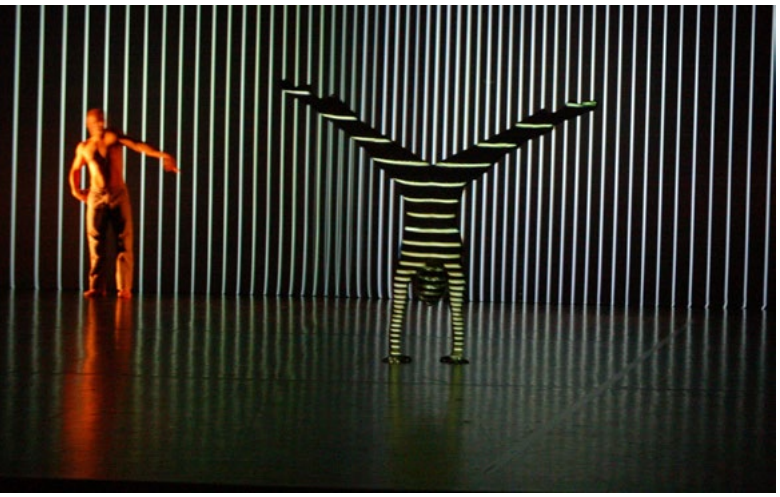
There is no doubt that contemporary dance is the field that is witnessing the greatest amount of blending with technology owing to the universality of its artistic language, movement and body poetics. Choreographers and dancers are drawn to technology for its huge possibilities of exploring new forms of expression and plasticity based on interaction with bodies.

- Mária Júdová's *body(input)*[16] project experiments with bio-interaction between body and technology with the aid of light sensors that respond to the dancer's biological functions.
- The company formed by Adrien M and Claire B[17] experiments with the poetics of bodies in movement, using techniques related to contemporary dance and circus or hip-hop, through their interaction with virtual environments by means of a technological application called eMotion. They have produced memorable shows such as *Le mouvement de l'air*[18] and *Pixel*[19] with the respective collaboration of choreographers Yan Raballand and Mourad Merzouki.
- One of the pioneers in this field, Thierry de

Le mouvement de l'air, by the company Adrien M and Claire B

Mey, created the performance *Light Music*[20] to explore the interrelationship between the movement of bodies and the creation of sound. *With Oui*[21] by Billie Secular and Ladonna Matchett proposes a narrative play on communication based on an object located in the centre of the stage equipped with a movement sensor (Wiimote) that allows the audio to be manipulated.

- One of the most prolific creators is Hiroaki Umeda and his company S20. Their shows *Adapting for Distortion*[22] and *Holistic Strata*[23] recreate virtual environments using audiovisual effects and sound rhythms. The company Chunky Move, a regular at IDN festival, has also experimented with projections that react to the performers' movements and become a further extension of their bodies in *Glow*.[24]



Apparition, by Klaus Obermaier

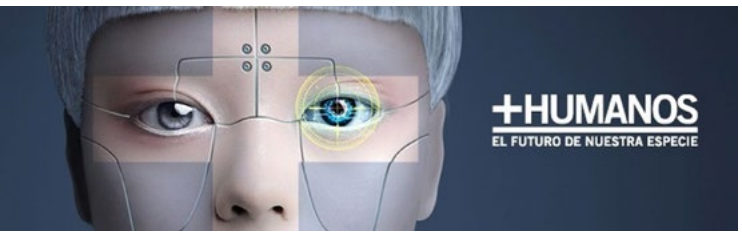
- Klaus Obermaier, together with Ars Electronica Futurelab, creates a real-time interactive dance performance in *Apparition*.[25] And in a previous show, *Le Sacre du Printemps*,[26] he experimented with stereoscopic dance generated in real time.
- 3D projection mapping is part of some of the shows performed by the Anarchy Dance Theatre, such as *Seventh Sense*,[27] in which it interacts with the dancers depending on the movement performed and the surface onto which it is projected.
- Quixotic Fusion created a dance, circus and video-mapping piece for TED entitled *Dancing with Light*.[28] And Tom O'Donnell joined forces with MIDASpaces to develop the performance The Midas Project[29] to show the changing relationship between technology and human being.
- Wayne McGregor and Random Dance have even developed the interactive digital software 'Becoming'[30] as a tool for choreographic creation. Similarly, the group prince_mio has devised 'Pathfinder',[31] a visual language that recreates choreographies related to urban dance.

> *But where is the boundary between the living, inert and animated bodies that perform a show?*

But where is the boundary between the living, inert and animated bodies that perform a show? Does the artificial condition the human? And is the reverse true? Or, going even further, what does it take to convert a robot into a person? Are the performers' feelings and emotions essential to bringing a live performance to life? Should we also envisage a robot audience?

- Choreographer Hyuang Yi created the show *A Duet of Human and Robot*[32] with the robot Kuka as a reflection on the interaction of machine and man.

- In his project *Prospectus for A Future Body*,[33] Choy Ka Fai experiments with various ways in which our body recalls and proposes new stories through technology: interactions stemming from the memory of our muscles and choreographies based on the synchrony of stimulated movements.
- Blanca Li also made a contribution to the interrelationship between humans and robots by collaborating with Maywa Denki and Aldebaran Robotics, creators of the robot Nao, on the show *Robot!*[34]
- An imaginative reinterpretation of the musical *My Fair Lady* was presented by Gob Squad at the Komische Oper in Berlin: My Square Lady,[35] in which the main role was played by Myon, a robot created by the Beuth University of Applied Sciences in Berlin.
- In connection with the fascinating exhibition Human+ The Future of Our Species[36] staged by the CCCB, various experiments have been conducted involving robots in stage performances, such as *Teatronika*,[37] which explores the interpretative capacities of robots led by the SPECS[38] laboratory of the Pompeu Fabra University; and in a meta-robotic spiral, we find the case of YuMi[39] interacting with the Reactable[40] in a genuine electronic music performance.



Poster for the exhibition *HUMAN+ The Future of Our Species,* CCCB

- Mention should also be made of a few cases of drones on stage. For example, Ryoji Ikeda's experiment *Online – The Performance*[41] at the Heart Noise Festival; or the direct interaction of devices of this type with dancers belonging to the company ElevenPlay, in collaboration with Rhizomatiks Research, in the show *24 drones*.[42]
- A curious creation to say the least is John Cale and Liam Young's Drone Orchestra.[43] A version of Shakespeare's *A Midsummer Night's Dream*[44] performed at Texas A&M University even incorporated drone robots as fairies, which came on stage for a curtain call[45] after the show ended.
- Cirque du Soleil carried out an intriguing experiment with drones together with ETH Zurich and Verity Studios in *Sparked*,[46] showing that technology can be used to combine actors and machines in choreography.
- And meanwhile, the brilliant Carles Santos has pulled out all the stops in his latest show, *Patetisme il·lustrat*,[47] in which he ironically plays with everyday objects such as a robotic vacuum cleaner and a hand drier. Absolutely brilliant.

From augmented reality to more reality

It seems that the forays into augmented reality by major corporations like Google and its DIY cardboard,[48] HTC and Vive,[49] Facebook and Oculus VR,[50] Sony and PlayStation VR[51] and Samsung and Gear VR[52] are gradually becoming a business model and palpable commercial reality.

> *Virtual and augmented reality for active teaching about artistic processes, making them understandable and appealing to all audiences.*

The old yearning to break down the barrier between real and unreal, preferably in an immersive experience, relates to the performing arts and their ability to create new aesthetic spaces and generate content that allows this technology to be easily adopted. Will the videogame industry help generate new worlds

(and new lives) that can be extrapolated to the realm of live experience? How can this augmented reality be feasibly experienced in a shared manner by artists and the rest of the audience?

- *The Wall Street Journal* produced a video[53] of Sarah Lane, a dancer belonging to the American Ballet Theatre, preparing to perform *The Sleeping Beauty* at the Lincoln Center. It showed, in 360 degrees, the step-by-step process down to the end result. This is undoubtedly a fantastic means of actively teaching about artistic processes as it makes them understandable and attractive to audiences. To optimise viewing, it is not sufficient to press play and merely gaze at the screen; instead, we need to scroll around in all directions, interacting with the mouse or with our finger. The 360-degree experience is starting to gain ground in many stage performances. The video clip of the number 'Circle of Life' from the Broadway musical *The Lion King*[54] has proved to be a huge Internet hit.
- Without a doubt, the landmark project in this field is Google Cultural Institute's *Performing Arts*,[55] which underlines the possibilities this technology has to offer in music, opera, theatre, dance and performances, featuring images of artists, performers and shows on leading stages.

© Google Cultural Institute
Homepage of the website of the *Performing Arts* project of Google Cultural Institute

- *VANBeethoven*,[56] an experiment led by Gustavo Dudamel and the Los Angeles Philharmonic Orchestra, is particularly noteworthy in its conception of immersive user environments and experiences that go beyond the dimensional notion of a live show. Through Oculus devices based on Samsung Gear VR technology, virtual reality comes to classical music, helping it engage with a broad variety of audiences. More at: https://youtu.be/WiHlVPj6i-o.

© La Phil
Gustavo Dudamel conducting the Los Angeles Philharmonic Orchestra offers a virtual-reality concert as part of the project *VANBeethoven*

- The spectacular immersive mapping technique, both outdoor and indoor, can also serve the same purpose. An interesting case is the performance of the Youtube Symphony Orchestra[57] at Sydney Opera House.
- Even the use of GoPro cameras – as in *Waltz on the Wall*,[58] a dance show by Amelia Rudolph and Roel Seeber – gives the audience an insight into the sensation of vertigo and verticality experienced by the dancers.
- Similar cases are the Czech Philharmonic[59] performing a piece by Richard Strauss, the BYU Philharmonic Orchestra[60] performing Copland and the violinist Lara St John[61]

performing Vivaldi's *Four Seasons*, to offer the audience an intense and immersive experience.

Holograms and other ways of being present

As pointed out by Dennis Gabor, winner of the Nobel Prize for Physics in 1971 for inventing holography, you cannot predict the future, but you can invent it. And when it comes to inventing and reinventing futures, what better than the world of show business to put into practice the ability to present the audience with someone or something – floating three-dimensional figures that can be seen from different angles – that is not physically in that space, and to explore its interactive potential? To what extent will we need to interact with artists' materiality? Can we experience their emotions without their real presence? Will holographic elements make direct interaction possible?

The main area where the performing arts still have a long way to go towards digital transformation is precisely the production stage.

- The company Obscura Digital[62] developed technology that made it possible for singers M.I.A. and Janelle Monáe to give a joint performance through holographic devices at the launch of a new Audi model, even though the artists were physically located in two different cities, New York and Los Angeles. The added value was provided by the use of 3D projection mapping to create a sense of depth through animated graphics.
- In the duet *Emergence*[63] John McCormick experimented with creating a virtual and interactive dancing figure that responds to the movement of an actual dancer by changing colour and brightness.
- A few experiments with holograms have gone particularly viral online, such as those of the composer Yoshiki,[64] who came musically face-to-face – piano versus piano – with his own hologram at a performance; the late rapper Tupac Shakur at Coachella festival;[65] or Michael Jackson's stellar appearance at the Billboard Music Awards.[66]

© abc
The performance by the Michael Jackson hologram at the Billboard Music Awards

Act III
From the curtain rises... to the show must go on

But the performing arts sector still has a long way to go towards digital transformation as far as the production phase is concerned. Organisations and managers need to make a concerted effort to incorporate more technology in order to move forward in developing their stage projects: digital stages, videographic designs, sound reinforcement and sensorisation are concepts that are increasingly present in the day-to-day running of the sector.

In an environment where tailoring the cost of producing shows to their potential takings is a primary concern, any alternative that adds to audience appeal may also entail greater artistic risk. And in this respect technology can make interesting contributions. What processes will digital redefine? Will new technologies allow organisers to go in for more ambitious productions based on digital resources that bring costs down?

- In the case of stage production, LED technology has significantly revolutionised stage lighting, as has occurred in other

activity sectors. Optimising the audience's reception of the actors' gestures and movements, and the emotions and feelings they convey, is an essential component of today's live arts. As was concluded at the II Jornadas de Plástica Teatral,[67] a conference on stage art organised by the CDN (Centro Dramático Nacional) in connection with International Year of Light, LED technology has brought about a reconsideration of colour management as a basic part of illuminating a show, as well as a substantial saving in production costs.

- As the examples of artistic creation have shown, the production of new stage sets based on light and sound factors is proving to be a fertile ground for developing new projects and new formulas for applying technological breakthroughs to the performing arts sector.
- The emergence of DIY philosophy and the 'maker' phenomenon, especially in the field of 3D printers, is making it feasible for processes of this kind to be applied in order to bring down costs and customise stage elements immediately. In Sweden, for example, a group of students from Lund University have created a band of musicians whose instruments are made using this technology. They have even performed concerts at the Music Academy of Malmö University.[68] The instruments are also sold by university lecturer Olaf Diegel through the firm Odd Guitars.[69]
- Indeed, it seems that the field of musical instruments is an endless source of experimentation, as this case recalls the guitars created from Lego bricks designed by Pavan Wood Works.[70]
- The ICUB (Instituto de Cultura de Barcelona) is providing incentives for multidisciplinary stage productions that develop creative networked projects and use the FI (Future Internet), through the Future Internet-Performing Arts awards.[71]

Although it might seem the obvious way forward for most economic sectors, the idea of incorporating technology into the management phase of the live arts is not so clear. The sector still needs regulation to allow the use of integrated ERP (Enterprise Resource Planning) systems that bring together the computer applications needed to manage an organisation: production, maintenance, financial and analytical accounting, suppliers, customers. It is purely a question of organisational efficiency to enable the information shared by the organisation to be optimised.

Incorporating technology into the management stage will allow ERP systems to be used for production, maintenance, financial and analytical accounting, suppliers and customers.

Basically, the digital transformation yet to be carried out is much deeper, as it must be spurred by a change of attitude and the disappearance of habits that are still deeply rooted in the sector. Why not consider the possibilities of marketplaces as platforms for exchange between supply and demand for both creators and artistic projects? Will new mediators and operators appear in the sector who are capable of matching supply to demand? As Genís Roca of RocaSalvatella puts it,[72] 'any product under digital pressure morphs into a service'.

- Such is the case of Afactys,[73] an online platform of performing artists (they define themselves as a social network) that brings sector agents (production companies, managers, organisations...) together to find professional collaborators for their projects.
- Similar cases are the Meetinarts[74] and Kompoz[75] communities, the latter focused on the music sector.

However, it is precisely in the areas of marketing and communication where the need to incorporate technology into stage management processes is most urgent. The sector has

witnessed a constant restructuring of ticketing, going from a bank-controlled model to in-house formats. But, once again, in most cases the part has been mistaken for the whole. The key doesn't lie solely in how you control the ticket office and public access but mainly in having a thorough knowledge of audiences through CRM (Customer Relationship Management) systems that allow strategies to be devised for segmenting and retaining audiences and ensuring their loyalty, and where data from ticketing, email marketing and social media chats, use of apps and online navigation via Google Analytics can and should converge. If to these processes we add the possibility of having BI (Business Intelligence) tools for carrying out a comprehensive analysis of this information with a view to decision making, it is not far-fetched to envisage the possibility of smart systems of warnings and automation of marketing actions. At the end of the day, as Marc Vidal states, 'the strategy will be human and the tactics pure artificial intelligence'.[76]

Knowledge of the audience can be gleaned through CRM systems for devising strategies for segmenting and retaining audiences and ensuring their loyalty, including ticketing, marketing social media and browsing.

So, it is a question of normalising the sector, which should enable us to question issues such as: is the sector's environment properly analysed, is it actively listed to, is it truly connected? Are we familiar enough with the audience's motivations? Do performing arts managers deliver what audiences and artists really want? And what is more... does that make us necessary?

But let's now go one step further and consider how technology makes it possible to think about new ways of distributing shows, especially in an environment with many communication channels and where transmedia storytelling offers huge possibilities for interconnection and interrelation.

- An up-and-coming alternative is harnessing the potential of digital to reach bigger and more diverse audiences than usual through projects for transporting plays from stage to big screen. An illustrative example is Miracle Theatre,[77] a modest English company which has explored ways of boosting its income through 'theatre for screen' productions. This method shuns B2B and fully espouses B2C, as creations are delivered directly to the audience while revenues are earned from stage performances. For example, showing one of their productions, *Tin*,[78] in cinemas, as well as the sale of merchandise, has enabled them to explore the earning potential of the project, as a result of which revenues have exceeded production costs. The 'theatre for screen' experience has been so successful that they have even published a *Manual for Bringing Theatre to the Screen*[79] explaining this good example of optimised use of digital technology.
- Live-streaming shows of all kinds bring a host of possibilities for global distribution. Such is the case of the National Theatre Live[80] programme, which includes the Behind the scenes section[81] for discovering additional videos of the making-of of shows.

Homepage of the website of 'Globe Player'

- The system of video on demand can also be applied to the sector, as in the fascinating 'Globe Player'[82] project linked to the

universe of Shakespeare and The Globe, which has also spread to showing in movie theatres.

- Another interesting means of dissemination and marketing is the combo packs offering leisure and tourism activities. Barcelona's opera house, the Gran Teatre del Liceu,[83] is exploring this channel intensively through the Liceu Box, an experience package that can include personalised visits to the theatre, various merchandise or a stay in a hotel, as well as an opera performance.
- An interesting project designed to cater to the educational aspect of the performing arts is Connect: Resound,[84] led by Music Education Hubs (MEHs) and implemented in rural areas of England to boost teaching of the arts (in this case music) through the use of video streaming together with personalised tutorials over Skype.

Act IV
From gods... to *selfie show*

Interaction and engagement

There is no doubt that technology is a determining factor in the recent change in citizens' participation in and access to culture. Sectors such as music, literature, cinema and videogames are already experiencing this. And precisely the aspect where emphasis and priority can be given to the use of technology in the performing arts is in broadening user experience before, during and after a show, especially through new mobile devices, wearables and, basically, the IoT (Internet of Things), which is giving rise to new interactions and relations with audiences.

The audience is growing in pace with the evolution of our hypermedia society. It is increasingly mature, better informed and keener than ever to take part and interact.

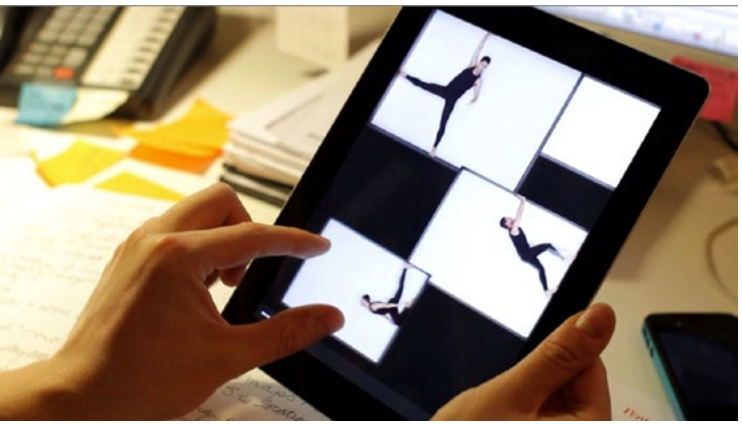
- The iOrchestra[85] is a good example of how to combine technology – specifically digital and active installations – education and live music experience to bring quality orchestral shows to non-regular family audiences using well-defined engagement strategies. Developed in southeast England – the Plymouth, Torbay and Cornwall areas – the project was implemented through travelling experiments such as the iOrchestra Tent where visitors experienced the deconstruction of classics such as Stravinsky's *Rites of Spring* or Holst's *Planet Suite*, and the iOrchestra Truck equipped with a MusicLab that enabled audiences to engage as much as possible with the musicians and orchestra. More information: http://www.philharmonia.co.uk/re-rite/home.

Image of the experiment with the iOrchestra

- The experiment with the Wallcast concerts with their huge, spectacular screens has helped bring musicals to all kinds of audiences in unusual environments. Led by the New World Symphony Orchestra,[86] this activity has been readapted to more Mediterranean contexts, such as the OBC (Orquestra Simfònica de Barcelona i Nacional de Catalunya) and the L'OBC a la platja[87] programme run by the Auditori de Barcelona.
- The Yorkshire Dance agency teamed up with Breakfast Creatives and Leeds University to experiment with respond,[88]

an online platform based on CRP (Critical Response Process) methodology for enabling artists to obtain offline and online audience feedback and test various forms of engagement. Through respond, the agency has encouraged the start-up of new creative dance projects making use of spectators' contributions, with the collaboration of choreographers Robbie Synge and Hagit Yakira. More information: http://www.yorkshiredance.com/respond, https://youtu.be/TrBvYXbskCc, https://vimeo.com/110465773#at=161.

- The 2wice Arts Fondation has developed an iPad app that breaks away from the idea of the 'fourth wall' (the invisible barrier separating the performers from the audience watching the performance in person) and 'fifth wall' (the same but in a digital environment). 'Fifth Wall'[89] transforms the tablet screen into a digital interactive stage across which we can make the choreographer Jonah Bokaer move as we wish.



Use of the 'Fifth Wall' application

- The 'Theatre in Paris'[90] initiative, focused on offering French theatre shows with English subtitles for international audiences, has experimented with the use of glasses incorporating augmented reality technology for customised subtitles of content at the show *Mistinguett*.[91]
- Alternative payment systems are also being implemented in the performing arts. Cruïlla Barcelona Summer Festival[92] devoted to pop music introduced cashless payment using smart wristbands equipped with the PayPal system.
- Beacon technology is used at performing arts events to improve interaction with spectators; beacons are located in the stage areas. Such is the case of Festival Temporada Alta,[93] where the use of Bluetooth to launch campaigns via mobile telephones has enabled it to attract new audiences through public libraries and interact with them to provide promotional offers before and after the shows.
- Children also have the chance to experience interactive shows, such as that of the company Imaginart. *Little Night*[94] is a floor/screen that interacts with the young audience, who play the leading role, based on their reactions. It is a marvellous way of stimulating and educating the senses so that they create a world of their own.
- Kinect[95] technology, widely developed in the videogame environment, has also been applied in the performing arts sector, as in the case of *The Computer Orchestra*[96] project run at the ECAL, which allows somebody to direct and monitor a whole computerised orchestra through the recognition of gestures and movements: https://vimeo.com/74922458.

The Computer Orchestra project

- The platform Phenicx,[97] developed by the Concertgebouw Orchestra of Amsterdam together with several European research centres, makes it possible to analyse and establish parameters from data gleaned from a concert in order to offer an extended user experience: the structure of the work (even indicating when the audience should applaud according to usual rules), an accompanying programme that incorporates discussion on social media sites, and the possibility of listening to the orchestra's instruments separately or of following the score while it is being played on stage.
- Affective computing, developed by firms such as Affectiva,[98] seeks to close the communication gap between people and machines by incorporating a new method of interaction, that which is provided by non-verbal language. It has a huge potential for enhancing the relationship between artist and audience, and between spectacle and spectator. Proof of this was the Pay per Laugh[99] programme run by The Cyranos McCann at the Teatreneu.

Emancipation, empowerment and participation

We started out speaking precisely of co-creation, the participation of audiences in artistic and creative processes. There is evidently a whole host of assessments, thoughts and ideas that underline the same point: the audience will cease to be what we have held it to be up until now.

> *Our audience is increasingly mature, better informed, and keener than ever to take part and interact. It processes, collaborates, produces versions, recreates, manipulates, 'memes'...*

The audience is growing (and reproducing itself) in pace with the evolution of our hypermedia society. We can find it anywhere and at any time (hooray for asynchrony!) because we can also find the spectacle experience *urbi et orbi.*

Our audience is increasingly mature, better informed, and keener than ever to take part and interact. It is involved in the artistic processes, it collaborates, produces versions, recreates, manipulates, 'memes' (if I may be permitted)... it becomes art and part, spectator and co-creator. It is even transformed into a patron or cofounder of the artistic project through crowdfunding formulas.

Let's not forget the theory of the 'emancipated spectator'[100] put forward by Jacques Rancière,[101] which alludes more to the emancipation of the creator, who must banish beliefs that confine him to the role of educator of ignorant masses. For the spectator possesses an active capacity for interpretation.

- The aforementioned Kònic Thtr - Kòniclab is also responsible for a networked performance experience that makes possible direct interaction between audience and artists, as in the project *Umbrales*,[102] in which 12 users are invited to take part from their homes via webcam.

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Viewing a *Bioreactive Concert*

- Pepsi's *Bioreactive Concerts*[103] project, managed through the Lightwave technological platform, makes it possible to analyse in real time, through sensor-equipped wristbands, audience data such as rising body temperature as the music session progresses.
- Audience involvement in developing performing arts projects also entails the possibility of contributing to their funding. Apart from through crowdfunding, technology can help boost participation through digital philanthropy, a phenomenon widespread in English-speaking countries, where the idea of donating is omnipresent in the culture sector.
- The Twitter hashtag #postfuncio,[104] which is widely used in the Barcelona area, provides first-hand information about first impressions, via Twitter, of the audience's critiques as a sort of 'Trip Advisor' for theatre performances, filtered by the immediacy of the social media site. It encourages the participation and interaction of all the agents involved in a stage production (authors, companies, performers... audiences) and generates a multiway channel between them. One of the consequences of this type of dynamics is that they give rise to new meetings, both face-to-face and virtual, between audiences and artists in the form of talks.
- Cross Border,[105] a company specialised in theatrical productions that encourage audiences to interact and participate, was one of the first to enlist the social media to trigger this interaction, especially with the youngest audiences. They began by experimenting with Twitter for the preview of the show *Perdidos en Nunca Jamás*[106] at the Teatro Circo in Murcia; they asked the secondary-school pupils in the audience not to switch off their mobiles, instead encouraging them to use the hashtag #NuncaJamás[107] to share their comments, criticisms, the expressions they liked, their favourite photo, what they found boring... Since then they have incorporated this type of dynamic into all their shows.
- The fact is that we are currently witnessing a growing number of stage productions, aimed especially at young audiences, and musical shows that are doing away with the tradition of not allowing photos to be taken during the performance and are adapting to 2.0. communication. The omnipresence of smartphones today has triggered this change in our habits of cultural consumption. The immediacy of the audience's reaction can be turned into the best possible strategy for encouraging word of mouth among spectators, real audiences and potential audiences. Indeed, it is the very spectator-prosumer who acts as a vehicle for communication via Twitter, Facebook or Instagram. And, in turn, producers and distributors make the most of this exchange of opinions to promote their shows. Such is the case of Los Zurdos' production *Amores minúsculos*.[108]

Scene from Roger Bernat's show *Pendiente de voto*

- Experiments in 'electronic democracy' in the field of the performing arts have also been carried out. Roger Bernat presented an ironic view of the concept of participatory democracy in his show *Pendiente de voto*,[109] in which the spectators became

temporary parliamentarians in a process guided by voting, for which software was designed combining the functions of voting management and interactive script.

- In another participatory practice, the Mercat de les Flors offered its audience the platform '¡Que dance quien quieras!',[110] through which they could vote online to decide on which shows should open the 2013–14 dance season. Nearly 15,000 votes were cast.

Epilogue
From big data... to (very) small data

We currently use all kinds of hyperbolic expressions to describe ourselves as social beings: superubiquitous, hyperactivity, multiscreen, megaconnection. And there must be some truth in all this. But the immediate consequence of this reality applied to the performing arts sector is that it is increasingly difficult to properly learn about our audiences and communities, as their behaviour is irremediably unpredictable.

Technology must enable us to explore how to convert data into information for making decisions and learning how to engage with audiences.

This situation will prompt an audience management effort that goes beyond mere segmentation and involves establishing personalised relationships with them and focusing on the micro-moments of the truth of the cultural experience. The audience – as we have already commented – has mutated into a demanding prosumer. And technology must enable us to explore how to convert data (or rather microdata) into information for making decisions and learning how to engage with audiences.

We are living in an age of absolute infoxication, where we need to be seen by and attract the attention of users, who furthermore have increasingly less time. That is why cultural projects need to have a crystal-clear story that enables them to offer users routes, paths and tracks to help them choose. And it is here that once again technology must help optimise channels of communication and dissemination to extend user experience as much as possible through transmedia.

For what citizens are calling for is precisely this: experiences, enjoying and sharing emotions, unique moments. And this is feasible whether these experiences take place in our home or in a private or public space, or on the way from one place to another. But these experiences must also draw from the blend of languages, genres and disciplines... And, once again, technology must be our ally in achieving this.

I am confident that reading these humble observations on changes in the performing arts in the digital age will do justice to another aphorism of the masterful Jorge Wagensberg, who stated in connection with a museum experience that 'it's alive when visitors come away with more questions than when they arrived'. So: let's carry on asking.

Bibliography

Acker, Olaf; Gröne, Florian; Lefort, Thierry; Kropiunigg, Laura. *The Digital Future of Creative Europe. The impact of digitization and the Internet on the creative industries in Europe*. Booz & Company, 2015. http://www.strategyand.pwc.com/media/file/The-digital-future-of-creative-Europe-2015.pdf

Benford, Steve; Giannachi, Gabriella. *Performing Mixed Reality*. MIT Press, 2011.

Broadhurst, Susan; Machon, Josephine. *Performance and Technology: Practices of Virtual Embodiment and Interactivity*. Palgrave Macmillan, 2006.

Carver, Gavin; Beardon, Colin. *New Visions in Performance: the Impact of Digital Technologies*. Taylor & Francis, 2004.

Causey, Matthew. *Theatre and Performance in Digital Culture: from Simulation to Embeddedness*. Routledge, 2009.

Dixon, Steve. *Digital Performance*. MIT Press, 2007.

Giannachi, Gabriella. *Virtual Theatres: an Introduction*. Routledge, 2004.

Jones, Caroline A. *Sensorium: Embodied Experience, Technology, and Contemporary Art*. MIT Press, 2006.

Kwastek, Katja. *Aesthetics of Interaction in Digital Art*. MIT Press, 2013.

Lee, Sarah; Linett, Peter. *New Data Directions for the Cultural Landscape: Toward a Better-Informed, Stronger Sector*. (http://www.culturaldata.org/wp-content/uploads/new-data-directions-for-the-cultural-landscape-a-report-by-slover-linett-audience-research-for-the-cultural-data-project_final.pdf). Cultural Data Project, 2013.

Ricardo, Francisco J. *Literary Art in Digital Performance: case studies and critical positions*. Continuum, 2011.

Stern, Nathaniel. *Interactive Art and Embodiment: The Implicit Body as Performance*. Gylphi Limited, 2013.

Thomson, Kristin; Purcell, Kristen; Rainie, Lee. *Arts Organizations and Digital Technologies*. (http://www.pewinternet.org/2013/01/04/arts-organizations-and-digital-technologies). Pew Internet Project, 2013.

El Manifiesto Onlife. Ser humano en la era de la hiperconexión (collective translation into Spanish: https://drive.google.com/file/d/0B19fnVg9-hoDN09UNkg5TEE3b2c/view; original in English: https://drive.google.com/file/d/0B19fnVg9-hoDN09UNkg5TEE3b2c/view)

Digital Resources

Cultura Digital [in Catalan] (http://blocs.gencat.cat/blocs/AppPHP/culturadigital)

Digital R&D Fund for the Arts (http://artsdigitalrnd.org.uk)

EMPAC (Experimental Media and Performing Arts Center) (http://empac.rpi.edu)

FACT (Foundation for Art and Creative Technology) (http://www.fact.co.uk)

Hangar (https://hangar.org)

MediaEstruch (http://www.mediaestruch.cat)

Mosaic (http://mosaic.uoc.edu)

New Media Performance (https://www.facebook.com/NewMediaPerformance)

Performance Research (http://www.performance-research.org/)

Performing Media (http://www.performingmedia.org/)

Tea-tron (http://www.tea-tron.com)

The Creators Project (http://thecreatorsproject.vice.com)

ZKM (http://zkm.de/en)

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Endnotes

1. https://es.wikipedia.org/wiki/Jorge_Wagensberg
2. https://en.wikipedia.org/wiki/Peter_Brook
3. Brook, Peter, *The Empty Space,* Penguin, 2008.
4. https://en.wikipedia.org/wiki/Zygmunt_Bauman
5. Bauman, Zygmunt, *Culture in a Liquid Modern World,* Cambridge Polity Press, 2013
6. http://tremendo.com/cluetrain/
7. http://newclues.cluetrain.com
8. https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/Manifesto.pdf
9. https://en.wikipedia.org/wiki/Creative_Commons
10. http://guybenary.com/work/cellf
11. https://youtu.be/vJWzxMVDq8IL
12. http://beyondthefencemusical.com
13. https://youtu.be/eTfV33KhYcE
14. https://youtu.be/jlxCiXUKasI
15. https://vimeo.com/109672232
16. https://vimeo.com/133901650
17. http://www.am-cb.net/projets
18. https://vimeo.com/145201272#at=13
19. https://vimeo.com/114767889
20. https://vimeo.com/24453131
21. https://vimeo.com/128720880
22. https://youtu.be/-PWAQPbOx7I
23. https://youtu.be/6hXD1rQTJio
24. https://youtu.be/C4He543_a8o
25. https://vimeo.com/64624233#at=0
26. https://youtu.be/DhPtrpSIHXU
27. https://youtu.be/iQlDEPLHPyQ
28. https://www.youtube.com/watch?v=PKIvop5hJ90

29. https://youtu.be/lF2AR_y9s3s ◄
30. https://vimeo.com/119345797 ◄
31. https://vimeo.com/111361109 ◄
32. https://vimeo.com/77566365 ◄
33. http://www.ka5.info/prospectus.html ◄
34. https://vimeo.com/73267626 ◄
35. https://youtu.be/jWBN9627mSg ◄
36. http://www.cccb.org/en/exhibitions/file/human-/129032 ◄
37. https://youtu.be/yQ2kyl3x1Ro ◄
38. http://www.specs.upf.edu ◄
39. http://new.abb.com/products/robotics/yumi ◄
40. https://en.wikipedia.org/wiki/Reactable ◄
41. https://vimeo.com/111828457 ◄
42. https://youtu.be/cYWvKudIIJ8 ◄
43. https://youtu.be/y4QQzzU2diM ◄
44. https://youtu.be/iCpvoKAytSk ◄
45. https://youtu.be/6tuZowUo1Eg ◄
46. https://youtu.be/7YqUocVcyrE ◄
47. https://youtu.be/7zXoThsR9Ws ◄
48. https://www.google.com/get/cardboard/get-cardboard ◄
49. https://en.wikipedia.org/wiki/HTC_Vive ◄
50. https://en.wikipedia.org/wiki/Oculus_VR ◄
51. https://en.wikipedia.org/wiki/PlayStation_VR ◄
52. https://en.wikipedia.org/wiki/Samsung_Gear_VR ◄
53. https://youtu.be/FQZAIg5KfvQ ◄
54. https://youtu.be/7T57kzGQGto ◄
55. https://performingarts.withgoogle.com/en ◄
56. http://www.laphil.com/vanbeethoven ◄
57. https://youtu.be/7eF9W3gcDWw ◄
58. https://youtu.be/SmoNy_LcCAY ◄
59. https://youtu.be/Nmk3-th6lbY ◄
60. https://youtu.be/vLUFL3KoAr4 ◄
61. https://youtu.be/TdNAw1yNna4 ◄
62. http://obscuradigital.com/work/live-holographic-duet-with-janelle-monae-and-m-i-a ◄
63. https://youtu.be/Lo34xkH7vC8 ◄
64. https://youtu.be/jMgLnWNCfFM ◄
65. https://youtu.be/Oj7dv15bP8w ◄
66. https://youtu.be/jDRTghGZ7XU ◄
67. http://www.jornadascdn.es/ ◄
68. https://youtu.be/U4E5SqIwa4U ◄
69. http://www.odd.org.nz/ ◄
70. http://www.pavanwoodworks.com ◄
71. http://www.barcelonalab.cat/ca/noticies/dos-premis-future-internet-per-projectes-escenics-multidisciplinaris/#sthash.HyAxXXVT.dpuf ◄
72. http://www.rocasalvatella.com/ ◄
73. https://afactys.com/index.php/afactys ◄
74. http://meetinarts.com ◄
75. http://www.kompoz.com/music/home ◄
76. Marc Vidal's blog (http://www.marcvidal.net/blog/2015/12/13/en-breve-la-estrategia-ser-humana-y-la-tctica-pura-inteligencia-artificial). ◄
77. http://www.miracletheatre.co.uk ◄
78. https://vimeo.com/119863341 ◄
79. http://www.miracletheatre.co.uk/wp-content/uploads/2015/10/miracle_nesta_report_final.pdf ◄
80. http://ntlive.nationaltheatre.org.uk/ ◄
81. http://ntlive.nationaltheatre.org.uk/behind-the-scenes ◄
82. https://globeplayer.tv/ ◄
83. http://www.liceubarcelona.cat/es/localidades-y-abonos/estanavidadregalaliceu.html ◄
84. https://youtu.be/CQcLJc9JrLI ◄

85. http://www.iorchestra.co.uk/ ◂

86. https://youtu.be/-dBpIKLTKcE ◂

87. https://youtu.be/dhLyxj7FwXs ◂

88. http://www.respondto.org/ ◂

89. https://vimeo.com/44732112 ◂

90. http://www.theatreinparis.com/how-it-works.html ◂

91. https://youtu.be/kuOTMNVw-wY ◂

92. http://www.cruillabarcelona.com/es/infos-practicas/faqs-paypal-y-cashless ◂

93. http://www.temporada-alta.net/es/inicio.html ◂

94. https://vimeo.com/113695871 ◂

95. https://en.wikipedia.org/wiki/Kinect ◂

96. http://www.computer-orchestra.com/ ◂

97. http://phenicx.upf.edu ◂

98. http://www.affectiva.com/ ◂

99. https://vimeo.com/97413457 ◂

100. Rancière, Jacques, *The Emaciated Spectator*, Verso, 2009. ◂

101. https://en.wikipedia.org/wiki/Jacques_Ranci%C3%A8re ◂

102. https://vimeo.com/61620285 ◂

103. https://vimeo.com/91690892 ◂

104. https://twitter.com/hashtag/postfuncio ◂

105. http://www.thecrossborderproject.com/filosofia-cross-border ◂

106. http://www.thecrossborderproject.com/perdidos-en-nunca-jamas/ ◂

107. http://www.thecrossborderproject.com/cuando-los-adolescentes-vuelan-a-nunca-jamas/ ◂

108. https://youtu.be/TpDPhYnVaHk ◂

109. http://rogerbernat.info/en-gira/parlamento-titulo-de-trabajo-proyecto-2012/ ◂

110. http://mercatflors.cat/es/general-es/que-dance-quien-quieras-bailes-de-apertura ◂

VIDEOGAME DESIGN AND DISRUPTIVE PRAXIS

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To speak of playing games is not a conceptual redundancy but an assertion that underlines the difference between ludic activity and designed object. Playing games entails subjecting ludic activity to a series of rules, mechanics and challenges that are sometimes negotiable but predetermined by formal design parameters. We need to bear these nuances very much in mind when establishing links between digital games and art, a field heavily imbued with action, attitude and experience of play as the essence of artistic creation (Huizinga 2008).

It can be said that videogames, as digital examples of games, are possibly the most unique and complex cultural artefacts that currently exist, the predominant twenty-first-century form of culture (Eric Zimmerman 2013). Attempts to analyse them as a cultural device stem from the desire to acknowledge them as an art form derived from the human drive to play, a need comparable to the act of composing music as a cultural construct related to the pleasure of listening to sounds or creating narratives and making films in response to the human impulse of storytelling (Costikyan 2013).

Attitude and experience of play are the essence of artistic creation. Videogames are the most unique and complex cultural artefacts that exist today.

Digital games can be traced back to the emergence of computing systems in isolated science labs at the beginning of the second half of the twentieth century (Fig.1) in an age when western art and counterculture, much more mature, rebelled against conventions and questioned established ideas. During these early years videogames were overlooked, regarded as mere technological curiosities, and it wasn't until three decades later that their social acceptance and their specificity and complexity as a form of culture began to appeal to artistic sensibilities.

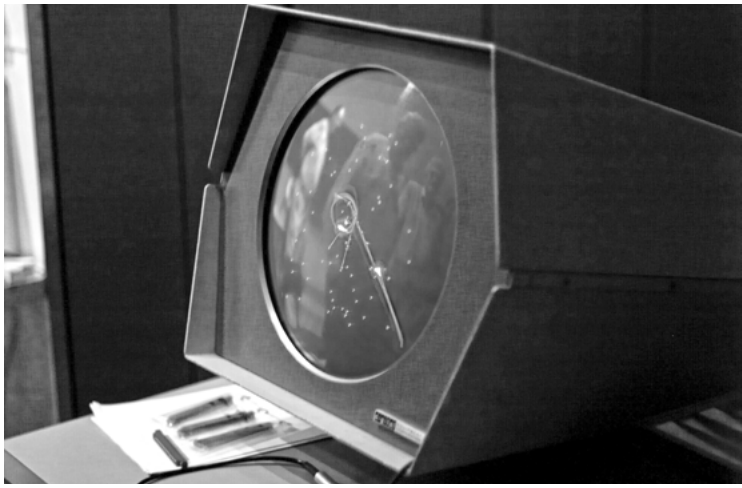

FIG. 1: *Spacewar!* (1961) one of the first videogames in history, developed at the MIT by Steve Russell, Martin Graetz and Wayne Wiitanen, mounted on a PDP-1 computer (Computer History Museum, California).

Game art as a subgenre of new media art

By the mid-1990s artists, curators and critics were starting to use the term new media art to refer to artistic projects created and developed using new digital technologies (Manovich 2001, Wardrip-Fruin and Montfort 2003, Tribe and Jana 2006). Various authors cite works which span the broad practical range of the new technologies, displaying an outstanding degree of conceptual sophistication, technological innovation and social significance, and examine the cultural, political and aesthetic possibilities of these digital tools (Tribe and Jana 2006: 6, 7). The field of new media art is characterised by interactivity, networks and computation and is often about process – that is, patterns of behaviour – rather than objects (Graham and Cook 2010).

It was during this period, in the mid-1990s, that game art began to take shape as a subgenre of new media art. The iconography of videogames had already become a part of shared cultural capital – the set of icons that artists could reasonably expect their audience to recognise (Mitchell and Clarke 2003). Apart from this status as references, which we might classify as cosmetic, videogames began to provide creators with a rich source of interesting and relevant themes.

Game art, like other trends in new media art, used emerging technologies for artistic purposes. In this respect advances in PC hardware and software played a very important role in spurring the appearance of this trend in the 1990s. So did that fact that this generation of creators had grown up in direct contact with the computers and videogames of the 1980s (Tribe and Jana 2006: 10).

Game art uses emerging technologies for artistic purposes. It borrows audiovisual elements from videogames and adapts them to the context of conventional art.

Strategies of the cultural industry of videogames as a stimulus to artistic production

A major milestone in the history of game art comes from the cultural industry of videogames of that period. The videogame *Doom* (1993), made by ID Software, pioneered a new economic and social model with an initiative that was nearly a decade ahead of the phenomenon of user-generated content (crowdsourcing). ID Software brought out a smaller, free version of the game via Internet shareware channels and other online services. The result of this new tactic was that more than 15 million copies of the original game were downloaded worldwide (Manovich 1998).

By offering its software free, along with a detailed description of the game formats and a level editor, ID Software enabled players to extend their own product, creating new levels of play. The company's self-hacking thus gave way to a whole host of content created by users themselves, which became new levels available on the Internet to be downloaded and modified by anyone.

> Here was a new cultural economy that transcended the usual relationship between producers and consumers (...): The producers define the basic structure of an object, and release a few examples as well as tools to allow consumers to build their own versions. (Manovich 1998)

They later released a full, corrected commercial version of the game. This was therefore a historic moment. ID Software's strategic decision ushered in a series of concepts and tools that played a determining role in the creation of new artistic discourses. Beginning in the mid-1990s, the phenomenon generated a large corpus of experimental creations, such as player-developed modifications (mods), machinimas (audiovisual pieces produced from videogame settings, characters and environments) and other creative formats related to digital games.

FIG. 2: Photograms from BlackShark's machinima *The 1k project,* 2006. Film recorded by editing a thousand different races using the replay editor of the videogame *Trackmania Sunrise*

Videogames: motive, device and tool for artists

The combination of the abovementioned social and cultural factors, coupled with an overall sensation of enthusiasm and fascination with the potential of this new technology, aroused an unprecedented level of interest in game art among the artistic community.

Borrowing audiovisual elements from videogames and adapting them to in the context of conventional art is probably the most commonly used strategy in the art of the period. To do so, artists did not need to know anything

about the technology or dynamics of digital games (Mitchell and Clarke 2003, Stockburger 2007: 29).

From a viewpoint close to painting, photography or infographics, we find works such as Miltos Manetas's *People Playing Videogames* (1997–98). Infographics such as *Game City,* by Totto Renna (Fig. 3), and Eva and Franco Mattes's portraits of avatars from the virtual world *Second Life, Portraits* (2006) likewise draw on the culture of digital games in different ways.

Further examples are sculptures such as Brody Condon's *650 Polygon JohnCarmack* (2004), a three-dimensional representation of computer scientist John Carmack, one of the founders of the developer ID Software, and *Need for Speed. Cargo cult* (2005), in which Condon replicates a model of a car extracted from the race simulation series *Need for Speed* (since 1994) using cast urethane branches.

FIG. 3: *Game City,* by Totto Renna.

Similarly, we also find audiovisual pieces such as *Estrecho Adventure* (1996) by Valeriano López: a video creation with a videogame aesthetic that explores immigration from the coasts of North Africa to southern Andalusia. In another video, *Readyplayed* (2006) by Ludic Society, on Parkour in the suburbs of French cities, the visual aesthetic provided by pixelated analogue material and certain other details such as a status bar on a screen give it the appearance of a retro videogame. An example of a project that uses graphic materials extracted from games to compose plastic pieces is Brent Gustafson's *AX/BX* (2005), generated from 128 different home screens of arcade games.

The need to question the rules

The systemic nature of digital games, the fact they are algorithmic structures governed by unambiguous rules, has clashed from the outset with artists' bold, disruptive and provocative approaches.

This is possibly why the first creative tactics linked to the language of videogames were modifications. Mods require some knowledge of the rules and computing system of a particular game, and sometimes even an understanding of a wider context such as the fans and the community built around the game. Interventions of this kind are often critical or ironic.

> *Game mods are reverse engineering: creative manipulations of the software of any videogame to create a different experience.*

We might think of game mods as a sort of reverse engineering. Basically, they entail freely appropriating and modifying the software of any videogame in order to create a different experience (Baigorri 2004). The formal starting point of this inverse engineering is code patches that alter the graphics, architecture, sound, design or physics of existing computer games on the market (*Doom, Quake, Wolfenstein 3D, Max Payne,* etc.).

These creative manipulations of the software (and sometimes the hardware too) stem from

a popular and common practice among some player communities. In fact, many games such as *Unreal Tournament* (Epic Games) or *Half Life* (Valve) are just as or even more famous for their modifiable potential than as games.

The aim of these artistic interventions is to transform the original nature of the game, usually from a critical, humorous or ironic approach. They are usually preconceived ethical and aesthetic parodies. They are conceptually subversive acts that entail a twofold intention: one of criticism and revision, and one of creation or regeneration. They can also be regarded as a testimonial defiance of the multinationals that underpin the videogame industry.

FIG. 4: Screenshots of the mod *Retroyou RC Fck the Gravity Code* by Joan Leandre (1999).

These practices, which come close to countergaming, evidence differentiated artistic and aesthetic attitudes. Some of them exclude any possibility of involvement in the game, forcing the design to return to other media such as video, animation, etc. Negation of the ludic experience (Galloway 2007) is evident in pieces such as Cory Arcangel's *Super Mario Clouds* (2002), where the artist modifies the game to the extent that the initial game completely disappears and all that remains is its landscape resembling a film set. In *Super Mario Movie* (2005), the same artist alters an 8-bit cartridge of the first *Super Mario Bros* to create a 15-minute story that is projected from an old NES (Nintendo Entertainment System) console and features Mario in a variety of rather outrageous situations: among others, crying on a cloud, riding on a magic carpet and at a rave party.

A similar case is Brody Condon's reinterpretations of Northern European medieval religious images in which he uses technological development and the current visual style of games to create animated paintings. *DefaultProperties* (Fig. 5 left) and *Resurrection (after Bouts)* (Fig. 5 right), although presented by the gallery as a mixture of animation and infographics, are in fact automated videogames. The pieces are animated but not interactive recreations of classical scenes from European painting.

DefaultProperties, for example, is an automated game featuring a tubby Asian man with a dreadful skin disease who moves, apparently engrossed in prayer, in a medieval Northern European landscape; beside him, a man dressed in animal skins wades through a river clutching a flaming sword. Meanwhile, the sky fills with extradimensional movement from which a heavenly being emerges (Condon 2011).

FIG. 5: Left, screenshot of *DefaultProperties* (2006). Right, screenshot of *Resurrection (after Bouts)* (2007). Both pieces are by Brody Condon.

In a similar transmedia vein, we find machinima productions such as *El tenista* (2006) by Felipe G. Gil, of Colectivo ZEMOS 98. Here the artist

reflects on contemporary society using footage from a tennis simulation videogame but performing a linear audiovisual exercise in which the game does not exist beyond the graphic allusion.

Another type of artistic intervention on games is the censorship or repression of commercial designs in the form of authorisation to carry on playing but only in the way the artist allows. This aesthetic of deprival is found in various forms: graphic modifications, modifications of the game rules or modification of the game engine.

Another type of artistic intervention on games is the censorship or repression of commercial designs so that it is only possible to carry on playing in the way the artist allows.

As for graphics, we find mods where the artist adds new level maps and creates a new graphic design or new character model, among other tactics (Galloway 2007). For example, in *[Domestic]* (2003), Mary Flanagan eliminates the original game but uses the three-dimensional space of the engine of the commercial game *Unreal Tournament 2003*. Flanagan employs family photographs and fragments of conceptual texts as textures of the architecture we navigate. The work tells of childhood memories of a fire in the family home.

We also find modifications of the game rules in which the artist devises new ways of developing the game or new play experiences or redefines who wins and who loses, and the repercussions of the actions on the original design thus vary. Other interventions are more respectful of the original materials and even trigger dilemmas by allowing relationships between players and characters that are not playable in the game. Julian Oliver's *Deathjam* (2001) is a modification of the first-person shooting game *Half Life* which features 32 intelligent robots; players can use the viewpoint of any of them to move around the space – both the living ones and those they progressively kill.

The artists belonging to the Eastwood-Real Time Strategy Group have produced different projects by modifying the historic *Civilization* series (1991–2014). Highly critical of technocapitalism, the group focuses on the real-time strategies of online communities. Taking as a basis the design of the game mechanics of this commercial series, they explore the competitiveness of web 2.0. companies such as Facebook or YouTube, as well as massively multiplayer online games such as *World of Warcraft* and the creation of collective content and the economy it drives – in which the providers of the content receive no profits.

Another type of modification directly alters the game engine, changing its physics, how the characters behave and the lighting, among other aspects.

The Catalan artist Joan Leandre gives a new twist to the physics algorithms of a well-known car racing game of the late 1990s in *Retroyou RC Fck the Gravity Code* (Fig. 4), creating a somewhat disturbing experience. Moments into the game we lose all logical spatial references. An example of extreme modifications that destroy not only the game but its navigation space is *Ctrl-space* (1998) by the pair of artists JODI (Joan Heemskerk and Dirk Paesmans), who hack the videogame *Quake*. The degree of intervention is so great that the system of spatial navigation is barely recognisable. Another unique mod is *2nd Person Shooter* (2006–7) by Julian Oliver, in which the player of a first-person shooting game sees through the opponent's avatar, while controlling his own avatar (viewed by the other player); this poses a major difficulty when it comes to handling the game and forces players to wander around the space rather than play at hunting each other down.

These and other projects clearly show that mods are one of the most specific ways of producing game art. Modifying a game by altering its characters, developing new levels, creating abstract or narrative machinimas, or generating instruments for audiovisual reproduction in real

time, abstract interactive pieces or site-specific installations equips the artist in question with a new knowledge of its technology and functions.

Technologically-minded authors of mods might have been expected to have gone on to design and develop games of their own from scratch as a result. However, all this work on digital games and the stylistic resources and patterns of dysfunctional, speculative and innovative design that arise from it are not as present as they might be in the production of games dating from immediately after that period and we are only just beginning to see them in a few contemporary creations.

At the start of 2000 the widespread adoption of sixth- and seventh-generation consoles as the main ecosystem of digital games (Dreamcast by Sega, PlayStation 2, Xbox, GameCube by Nintendo and Xbox 360, PlayStation 3, Wii by Nintendo) posed a certain difficulty in creating counterpractices in this environment governed by commercial console games. A few authors draw attention to the potential grounds for criticism the medium offers by describing the less pleasant side of this cultural industry: proprietary hardware and software, high levels of planned obsolescence and fierce competition are just some of the features that characterise the more commercial side of this digital technology (Franklin 2009).

In the 2000s artistic creation and the field of experimental games began to share creative interests: net.art, software art and artistic modification of videogames.

This nature of half-closed and market-driven is an environment in which countercultural practices flourish. And it is this scene, coupled with the emergence of digital distribution platforms and technically accessible and affordable or free development tools, which provided a perfect breeding ground for the subsequent emergence of designer games from the 2000s onwards.

During this period a few artists began working with videogame development software to create their own designs. Such is the case of Auriea Harvey and Michaël Samyn: hailing from the 1990s digital art scene, they set up the Tale of Tales studio in 2003 with the firm conviction that digital games can be as diverse and significant as any other medium. Their projects belong to the realm of poetic experiments designed to interest both regular players with unconventional tastes and non-players.

FIG. 6: Photogram of the game *Memory of a Broken Dimension* (2015), by XRA.

Artistic creation and the experimental games scene are starting to share creative interests and these synergies are generating parallels that are not going unnoticed to theoreticians and curators such as those of the latest edition of the Not Games Fest (Cologne, 2015). Examples of coexistence and conjunction are the projects *ZYX* by Jodi (2012) and *Bounden* by the Dutch studio Game Oven (2014). Jodi, pioneers in the field of net.art, software art and artistic modification of videogames, continue to experiment with common aspects of technology and its effect on our daily lives. *ZYX* is an application that uses mobile telephone sensors and the camera function to choreograph spectators' movements. By requiring users to perform a series of gestures such as rotating the telephone to the right ten times or seeking connection by holding out their arm, *ZYX* shows the dissonance between digital activities and our physical environments, also creating a new form of public representation. The design by Game

Oven, in collaboration with the Dutch National Ballet, takes this idea as a basis to devise a dance game for two players. Each player grasps one end of the mobile and they must both rotate it and twist their bodies around a virtual sphere following a path of rings.

With a less evident but no less direct correlation, the field of experimental games has come up with designs such as *Memory of a Broken Dimension* (Fig. 6), a project by XRA of the US that provides a disturbing and dystopic experience using a spatial and narrative game design very close to the extreme modifications made by game artists of the 1990s.

Creative game action vs instrumental game action

Another significant field to be explored is the actions that artists carry out within massively multiplayer online games. Like other media, games give rise to beliefs through their systems of representation and mechanics; artistic interventions of this kind tend to generate transgressive or ritual actions that are unsettling and therefore often help us reconsider the nature of these normative environments.

Games give rise to beliefs through their systems of representation. Generating transgressive actions in response to these normative environments is unsettling and helps us reconsider their nature.

Indeed, a great many artists have used game landscapes for interventions within the game itself, such as projects with a markedly ethical focus. An example is *Velvet Strike* (2001), which is the product of collaboration between artists Joan Leandre, Anne-Marie Schleiner and Brody Condon and intended as a protest action within the massively multiplayer online game *Counter Strike* (1999) by using spray paint to create anti-war graffiti. The project was devised at the start of former US president George Bush's war on terrorism and sparked controversy among regular *Counter Strike* gamers. *Dead in Iraq* (2006), by Joseph Delappe, is likewise a modification of the videogame *America's Army* (2002), which came out on the third anniversary of the start of the US invasion of Iraq. The author entered this multiplayer online videogame, which was developed as a recruitment tool for the US army, as an avatar called *Dead in Iraq* and wrote the names, areas of service, ages and dates of death of each of the soldiers killed in the war.

Another ethical and political action, this time in a game environment with a single player, is Magnasanti. This is the name given by architecture student Vincent Ocasla in 2010 to the city he created inside the game *Sim City 3000*. Ocasla built a highly optimised city based on parameters of functionality that in fact turned out to be a hellish, totalitarian metropolis where six million residents and a total population of nine million lived in very hostile conditions (Arida 2014).

It is also interesting to stress actions that are curious, aesthetic or even gross at first sight, such as Brody Condon's *Suicide Solution* (2004), a compilation of acts of suicide from more than 50 action videogames performed by the main character in the game, manipulated by the artist.

However, attitudes of this kind are as common and diverse among artists as they are among players. These acts of playing are linked to a subversive, curious type of player who plays outside the limits of the game system, sometimes spotting technical or design cracks in the game, sometimes hacking codes.

The act of playing creatively is related to the moments when the player conceives a new experience from the design elements pre-established by the designer. This type of act of playing is related to the ability of users of digital games to address situations from an approach different to that imposed by the game system. Some players derive a certain amount of pleasure

from subverting or dodging the interaction rules in games with a complex structure. In this regard, multiplayer games and open world videogames provide spaces of freedom that are prone to this kind of creative action and emerging playabilities that are not escaping the notice of enquiring-minded players or independent creators. Although the concept of open world videogames was defined in space simulators and a few role games of the 1980s, it was in the early 2000s that this feature became established in games such as *Grand Theft Auto III* (Rockstar Games, 2001). This formal quality is becoming a common ecosystem for players who enjoy basic mechanics such as walking or wandering around digital spaces. In recent years this type of pleasure has triggered the appearance of alternative games that defy the standards and conventions of mainstream products of the videogames industry and use the game space chiefly as a means of developing different types of ludic experiences.

FIG. 7: Photogram from the game *Everybody's Gone to the Rapture* (2015), by The Chinese Room.

We could quote as examples reactive environments designed to be explored, such as *Proteus* (Ed Key, 2013), or narrative designs in which a story gradually unfolds as the space is explored, such as the novel-like *Everybody's Gone to the Rapture* (The Chinese Room, 2015). Apart from open world, there are designs in which the basic mechanics consists of crossing the space through time jumps, such as *Judith* (Terry Cavanagh, 2009) and *Thirty Flights of Loving* (Blendo Games, 2012). These games probe the possibilities, limitations and conventions of the medium and are pejoratively categorised as *walking simulators* by the more orthodox sectors of gamer culture.

Fortunately, the independent artists, designers and creators who use game design as a means of expression from a more experimental and less categorical approach are evolving and using their formal elements (styles and systems of representation, progression rules, codes of conduct, reception contexts, paradigms of victory and defeat, modes of interaction) as basic building blocks for shaping new experiences that are less limited, less prescriptive – games that are more contingent and more open to players' interpretation of them.

Independent artists, designers and creators use game design as a means of expression from an experimental approach in order to shape new experiences open to players' interpretation.

The importance of incorporating divergent thought into the cultural industry of digital games

The antithesis of these creative attitudes is the act of instrumental play (Sicart 2011): actions embedded in designs in which the player must limit himself to following the game rules and structure devised by the creator, which generate a conditioned gaming experience, a type of play that is subordinate to the goals, rules and systems of the game and is unfortunately more common than might be expected in the cultural industry of digital games, especially the most conventional kind.

As we have seen, in the past designing videogames was linked to designing computing technology and to the objective perspective of considering only the formal characteristics of games. This digital trap has accentuated their systemic and algorithmic nature and has led us to overlook not only their more performative

side (Jaakko Stenros 2011), but also the disruptive nature of games as ludic artefacts, even though this discipline, like many other design subcategories, ought to fluctuate between logical and creative reasoning, the analytical and the generative, the objective and the subjective, and reason and speculation. In this respect the work of digital artists (and of creators in general in all fields of the arts) will be significant and will contribute to the modes, manners and processes of designing present and future digital games which, as well as entertaining, fun, relaxing and imaginative, offer a new vehicle for creative expression – designs that are shaped as instruments of conceptual thought or even tools for social change. In the field of experimental games we are already witnessing designs produced under these creative parameters which are reshaping and transforming contemporary gaming culture. Albeit from the fringes, these creations will progressively contaminate the industry in a positive way and, through their particularities, will help the medium mature and evolve, as has occurred in the past in other culture industries.

The work of digital artists and creators in all fields will be significant and will contribute to the modes, manners and processes of designing digital games.

R&D&I, from lab to market. Risk, innovation and bringing back diversity in gaming

Countries like Sweden and Canada have already started up non-profit initiatives to encourage the inclusion of other sensibilities in the cultural industry of videogames. Examples are the Canadian incubator Pixelles, which encourages women to become involved in this new emerging medium, and the accelerator programme for game developers Stugan, consisting of a two-month stay in a remote Swedish cabin promoted and funded by videogame industry professionals. Modest state funding is available for the creation of alternative games stemming from initiatives with little financial muscle but a great deal of commitment and selfless devotion, such as those produced this year by the Arsgames association or most of the masterclasses and free workshops on creating experimental games taught by the Encuentros de Diseño y Cultura Digital #EDCD.

In countries where the industry already draws from risky and innovative creative sources, there are alternative funding models to those of the traditional distributors. An example is Indie Fund, a new means of funding for innovative projects, which has been set up by independent designers who have achieved commercial success for their games, such as Jonathan Blow (*Braid*, 2004) and Kellee Santiago (*Journey*, 2012).

The academic field of research in art and the humanities has given rise to significant videogame development studios such as *The Chinese Room* as spinoffs. Indeed, its two most important projects, *Everybody's Gone to the Rapture* (Fig. 7) and *Dear Esther* (2012), started out as functional prototypes as part of the research on narrative design in videogames at Portsmouth University and have been developed under the aegis of the UK Arts and Humanities Research Council under its scheme for transferring knowledge to culture sectors.

Universities and fine arts faculties such as HKU University of the Arts Utrecht are running game design programmes from an artistic, creative and experimental approach together with other local initiatives such as the Dutch Game Garden, a powerful Dutch videogame industry that has given rise to prominent studios such as Vlambeer (*Ridiculous Fishing,* 2013, *Nuclear Throne,* 2015).

Promoting and supporting creative gaming experiences as opposed to conventional games, as a mechanism for fostering modes of creation open to new audiences.

The way forward is clear and entails promoting and supporting creative gaming experiences above other more conventional practices as

a mechanism for fostering modes of creation open to new audiences, new perceptions and diversification of experiences. It likewise calls for backing and fostering bolder projects at universities and public and private institutions, putting the emphasis on research in both design and artistic creation in order to build a robust, powerful and mature cultural videogames industry.

Digital resources and/or websites that are accessible online

http://gamestudies.org/

http://www.gamasutra.com/category/design/

http://www.gdcvault.com/

http://itch.io/

http://wip.warpdoor.com/

http://www.freeindiegam.es/

http://notgames.colognegamelab.com/

http://edcd.es/

https://steamcommunity.com/greenlight/

http://venuspatrol.com/

https://killscreen.com/

http://www.caninomag.es/category/mondo-pixel/

Specialised tweeters to follow

@indieorama
@AMazeFest
@PlayfulArtsFest
@altctrlgamejam
@ludumdare
@IndieCade
@RuberEaglenest
@BernieDeKoven
@zimmermaneric
@brandonnn
@indiogenes_

Bibliography

Arida, A. (2014). 'Magnasanti (Vincent Ocasla)'. Retrieved on 30 November 2015 from http://designandviolence.moma.org/sim-city-magnasanti-vincent-ocasla/.

Baigorri, L. (2004). 'Game as Critic as Art 2.0'. *XVII Exposición Audiovisual de la Facultad de Bellas Artes de Bilbao*, pp. 61–67.

Condon, B. (2011). 'DefaultProperties'. Retrieved on 18 November 2015 from http://rhizome.org/portfolios/artwork/53531.

Costikyan, G. (2013). *Uncertainty in games*. Cambridge, Massachusetts, The MIT Press.

Franklin, S. (2009). 'On Game Art, Circuit Bending and Speedrunning as Counter-Practice: "Hard"and "Soft" Nonexistence'. *CTheory.* Retrieved on 15 December 2015 from http://www.ctheory.net/articles.aspx?id=609

Galloway, A. R. (2007). 'La no diversión'. Text of the catalogue of the Gameworld exhibition. Gijón, Laboral Centro de Arte y Creación Industrial.

Graham, B. and S. Cook (2010). *Rethinking Curating: Art after New Media.* Cambridge, Massachusetts, MIT Press.

Huizinga, J. (2008). *Homo ludens*. Madrid, Alianza.

Jaakko Stenros, A. W. (2011). 'Games as Activity: Correcting the Digital Fallacy'. *Videogame Studies: Concepts, Cultures and Communications*: 11–22.

Manovich, L. (1998) 'Navigable Space'.

—(2001). *The Language of New Media.* Cambridge, Massachusetts, MIT Press.

Mitchell, G. and A. Clarke (2003). *Videogame Art: Remixing, Reworking and Other Interventions.* Level Up. Digital Games Research Conference, Utrecht.

Sicart, M. (2011). 'Against Procedurality'. *Game Studies, The International Journal of Computer Game Research*, 11. Copenhagen, Center for Computer Games Research.

Stockburger, A. (2007). 'From Appropriation to Approximation' in *Videogames and Art.* A. Clarke and G. Mitchell (eds.). Bristol / Chicago, Intellect.

Tribe, M. and R. Jana (2006). *Arte y nuevas tecnologías.* Madrid, Taschen.

Wardrip-Fruin, N. and N. Montfort (2003). *The New Media Reader.* Cambridge, Massachusetts, MIT Press.

Zimmerman, Eric and Heather Chaplin (2013). 'Manifesto: The 21st Century Will Be Defined By Games'. *Kotaku.*

DATA, INTERFACES & STORYTELLING: AUDIOVISUAL IN THE DIGITAL AGE

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He has authored several books (fiction and essay) and regularly contributes to the specialised digital media, where he writes about storytelling, brand content, film and innovation.

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'The sky above the port was the color of television, tuned to a dead channel.' [1]

William Gibson

This is the opening line of *Neuromancer*, the novel that marked the official start of the Cyberpunk moment (30 years ago). I am beginning with this quote because I believe that it illustrates the fear of technological evolution characteristic of a strand of dystopic thought that is still prevalent in the Spanish audiovisual industry even today.

I hope that this contribution, albeit partial, is extensive and varied enough to dissuade readers from believing that crises are negative by definition. Granted, digitisation of the audiovisual is marking the end of an age, but also the start of another that is richer and more complex. Welcome to the binary ecosystem!

1. Introduction: digital transformation

In 2001 Lev Manovich published a book that would become an essential work: *The Language of New Media.*[2] Fifteen years on there is still talk of 'new media', so presumably for many people this label means that other media are 'old'; what is more, there is no expiry date for novelty.

Manovich's book (for those who haven't read it yet) proposes reflecting in depth on the changes entailed by the digitisation of the media. And one of the points it clearly stresses is that it is the media themselves that have changed, so that 'old versus new' is neither a useful nor a significant distinction.

It continues to be read even today and is still fully relevant, owing largely to the focus the author decided to give to the subject: he avoided a chronological approach (which, incidentally, would have heightened a sense of linearity that we should start saying goodbye to) and adopted a functional point of view that was more in keeping with the issue at hand and also much more fruitful. As I have said, Manovich's book hasn't lost any of its freshness and remains a good introduction to what we most ambiguously term digital transformation.

The main idea the book explores is that digitisation of the media involves reducing a whole ecosystem to the following statement: 'Everything is data'. Everything is data.

Manovich, tremendously consistent with this thinking and the conclusions reached, brought out a second book in 2013. Its title? *Software Takes Command.*[3]

But this author not only deals with theory. Readers can find an online summary of his works,[4] which are evidently the result of implementing and putting into practice the ideas explored in his books.

I am quoting Manovich because I believe that he for one understood what was brewing (because it's now happened!) and shared it with us all for those who wished to get the message. This point can be illustrated with a simple photograph:

Photograph of a slide shown by Sandy Carter, *Social Business Evangelist,* at an *IBM for Entrepreneurs event.* Taken from John Kennedy's blog.[5]

So, if the revolution has already taken place... What will become of the audiovisual world? **Photochemical imaging** and the technical, industrial and economic systems that underpinned it **have died out**, or slid into an irreversible decline at the least; they can no longer be considered current technology but part of the history of technology.[6] It is important to realise that **we are not merely talking about a change in support**, but that **the advent of digital imaging has affected the whole audiovisual process**. Though it should also be remembered that the concept of 'image in motion' remains alive.

The advent of digital imaging has affected the whole audiovisual process. The digitisation of the world, coupled with widespread Internet use, has changed reality.

Everything is **data, represented in the form of images on various interfaces**. It is even outmoded to talk of screens, as the types of surface for reproducing them have become greatly diversified.

There is a further factor in the equation: the emergence of the **Internet** and its widespread adoption as a non-place that is nonetheless a **space for communication**.

There is something else that people don't entirely realise either, and therefore nor have its ultimate consequences been envisaged: **the Web isn't a medium, it's much more!**

Virtual is a part of our lives, and on/off is no longer a dichotomy.

The digitisation of the world (not just audiovisual), coupled with widespread Internet use, has changed our outlook forever; **it has transformed what we used to call 'reality'.** Nowadays we can make films without having to record anything in front of a camera[7] and synthetic images have achieved a level of hyperrealism that surpasses natural settings in quality.

A final point that needs to be made is a direct consequence of the foregoing: the media are not what they used to be or, to put it another way, the convergence Jenkins predicted has already occurred.[8]

We still talk of television, cinema, radio, the press... even though the technology that gave shape to those media has been replaced in all its phases by another type, digital, which **simulates it**, but **can reinterpret it to its liking** in any guise. As I said, it's not just a change of support; **it's a full-blown mutation**. I shall illustrate this with an example familiar to anyone: we can listen to digitised music (that is, converted into data) in the form of sound (imitating the original melody) or reproduce it in the form of animated graphics, or even both at once; even the simplest PCs come with a programme (software) that makes this possible.

2. Technology, language and storytelling

Everything has changed, but this shouldn't frighten us: life itself is change, and audiovisual was born precisely of innovation, of the application of new techniques and inventions that led to the creation of the cinema.

A quick glance at the history of motion pictures shows that **changes have been unstoppable**: from silent to sound, from black and white to colour, from photographic film to TV signals and videotapes ...

Cinema was the first art which needed machinery to exist and therefore technology is part of its very nature.

Let's get this straight: what is frightening is not the evolution of the media, but **the decline of an established way of operating**. And this is where

cinema and television come into it, but also music, literature... actually everything. Insisting on not seeing the overall situation amounts to **a head-in-the-sand approach**.

> *Cinema was the first art which needed machinery to exist and technology is part of its very nature. Therefore what is frightening is not the evolution of the media but the decline of an established way of operating.*

Not only the world of film or the cultural industries have changed: this is a global movement that extends to all areas of life. The world we live in doesn't bear much of a resemblance to the one that gave rise to motion pictures in the late nineteenth century, or to the twentieth century, where they enjoyed their heyday as an industry.

The digitisation of technology is bringing a period of our history to a close, but it's also opening up **new avenues for exploring** that are filled with fascinating possibilities.

Granted, these many new paths have not yet been developed to the point of becoming profitable business models (I'll return to this later on), but from a purely formal viewpoint we're experiencing a moment of rich potential never before witnessed.

To start off with, **3D film**, after many attempts (that failed to achieve convincing results), has finally become another offering for audiences, now with appropriate technical guarantees.

Admittedly, **as a language it's still in its infancy**: we're at the showing off and technical wonder stage (the wow effect): priority is given to objects that come flying towards the viewer and all kinds of fireworks that exploit the visual possibilities of the medium over a **reasonable use based on the storyline**, but it's a phase that has to be gone through. (The same thing happened with cinema, or don't we remember any more?).[9]

A similar case is **video-mapping,** the technique of projecting images onto various surfaces (usually buildings) where the audiovisual has been created especially for the projection site. As I pointed out earlier, although the first examples are a display of technical rather than storytelling prowess, there are new possibilities to be explored.[10]

Another field worth examining is **360-degree video**. The fact – which many people find unsettling – of losing the frame as a reference has sparked doubts about its effectiveness as a narrative device. In fact the problem is a different one: it's not that videos aren't framed, it's more that **the director has lost the privilege of doing so**, which now belongs to the user.[11] Although we can view these images on a computer screen, smartphone or tablet, the experience is unarguably better when we use the headsets designed especially for this type of work.[12] In this case they are for individual viewing, but it will only be a matter of time until the necessary technology is developed for collective (and interactive) viewing, just as **MMROG** (massively multiplayer online role-playing games)[13] have made it possible for various players to interact simultaneously in a shared gaming environment.

A fourth avenue is **interactive audiovisual**, which is already offered by many platforms, including Youtube.[14]

In the last two cases we are dealing with formats that offer **immersive possibilities** which up until now were only available with videogames. Once again, it is surprise and **fear of losing control** that makes professionals reluctant: the **forking paths** Borges wrote about are an audiovisual reality, just as it is a fact that these two media are moving closer together and are destined to meet.

So far I've detected only one possible problem that has any proper substance, and which we have the power to avoid. I am referring, as Laura Ruggiero so aptly puts it,[15] to viewers' possible

lack of empathy, to their 'seeing others' pain without feeling it'. Though this is nothing new either: it had already been detected in certain types of videogames, and before that in films.

The new fields of technology are 3D movies, video mapping, 360-degree video and interactive audiovisual. They all spark fear and misgivings among professionals reluctant to lose control.

Augmented reality (AR) in all its aspects is both a challenge and an irresistible attraction. The possibility of **adding layers of reality** to reality itself (that which we know with our five senses) has amazing narrative possibilities.

3. Audiovisual industry and business

Another consequence of this digital acceleration is a **drastic reduction in the commercial life of audiovisual products**. Whereas before years could elapse between a film's premiere and other release windows, nowadays the whole process takes only a few months, and what used to be different stages now often overlap. (Today we can watch a film at the cinema and go and buy the DVD after we come out).

For a time it was attempted to maintain market shares by stressing the **differences** offered by each of the distribution channels – that is, by maintaining this distinction.

Theatre viewing boasts the advantage of **large-format viewing** (though the size is progressively decreasing as multiplexes are catching on as a means of boosting turnover); DVD offers the **convenience** of home viewing (which video already offered), plus a number of **'extras'** (which are not always necessary or significant); and Blu-ray provides **higher resolution**.

Even so, sales are falling year after year, and the solution doesn't lie in **seducing and convincing** people to consume more. We need to realise that things have changed and that 'more of the same' isn't the answer.

Markets don't just fluctuate: they change too, and everyone knows that in the **ecosystem** inhabited by audiovisual **new species have appeared** which have disrupted the cycles. And no, it's no good blaming videogames for the stampede; though it should be recognised that, as a business, it's gone from not existing to overtaking cinema in turnover, and that should also give us food for thought. (**The world of videogames is closely related to audiovisual** and it's a field that lends itself to very interesting partnerships).

Apart from the presence of new actors, a determining factor is people's **changing consumption habits,** especially the new generations. Television still has a large number of users, but their average age is steadily rising. In other words: audiences are getting older and not being renewed, because young people have stopped consuming television.

But we can't just say 'it's young people's fault' or 'let's do something to attract them and get them to behave like audiences of decades ago'. That – and we must be clear about this – is simply not going to happen, not so much because this group don't consume cinema or television – they do, only **online**. Therefore we must **change the current audience measurement systems**. A recent example is the successful Spanish TV series *El Ministerio del Tiempo*, which was a huge hit but nearly didn't make it to a second season because online viewing figures had not been included in the audience ratings.[16]

The case of television clearly shows that **what is failing is both the funding system** (intrusive advertisements nobody wants to see) **and the very conception of the medium** (the well-worn formula of the 'single message at a particular moment' characteristic of the mass media). The same cannot be said about certain content:

there are legions of teenagers who follow series created for the small screen, just that they don't watch them when they are broadcast and nor are they willing to put up with the deluge of advertisements, which they regard as a nuisance.

A determining factor is people's changing consumption habits. We don't get to see what is being offered to us, but we demand what we want to see and where, when and how.

In actual fact, **the emergence of videogames and young people's behaviour are only isolated factors**. It's the **sum total of all of them** that has turned the situation around. The important thing is to realise that **we've gone from being a society of supply to one of demand**, and once again digitisation and the Internet are cornerstones of change. We don't get to see what is being offered to us (others make the choice on our behalf), but we demand what we want to see.

We've become used to **consuming content where, when and how we like**; and, incidentally, this is not an attribute exclusive to young people but is true of most of the digital population. What is more, this consumption is generally **zero cost**, or at least that is the perception the user has.

Here I must make an aside and introduce another idea that is essential to understanding that production processes have changed too. I'm referring to the concept of **scalability**. We used to have to build a whole product before releasing it onto the market and exploiting it. Now we can create small pieces that can be tested on future audiences before making a larger and more costly production without knowing if it's going to be well received.

There is an added benefit to this: **the audience feels part of the creative process**; with the help of feedback we can adapt the discourse better. (So much so that it has led **marketing campaigns to be moved from the end of the production chain to the pre-production phase**: sounding out the audience to find out what they think before making the product allows us to adjust the content before it's too late).

Another positive point to be mentioned when rethinking the approach to cinema as an industry is that all these technological changes involve the emergence of **new technical and professional profiles**.

A last phenomenon that has emerged powerfully is **transversality**. It's no longer any use shutting yourself away in your own world, your own market, your closed ecosystem... As the expression goes, you have to think out of the box – come out of your comfort zone (which incidentally is becoming increasingly less comfortable) and start **replacing the word competition with alliance**, in search of intersectorial win-win operations.

4. New formats

The arrival of the Internet and the adoption of new consumption habits have sparked the appearance of new formats – which is also good news, as it paves the way for new creation.

A product born of the need for **fast consumption** and the freedom of **not having to fit into a schedule** is **web series**.[17] It should be pointed out that what identifies them as such is their format, not the distribution channel. (*House of Cards* is simply a conventional TV series that is broadcast online).

Web-native series meet the new requisites: **short chapters** (between 2 and 15 minutes long), **seasons with a variable number of episodes**, a **faster-paced story** (which can even be tempestuous) and the creation of images (frames, composition) designed **to be viewed on the screen of a smartphone** or tablet rather than a monitor or TV.

This fruitful field has also begun to yield results and currently offers a **broad variety of subjects and genres**.[18]

The arrival of the Internet and the adoption of new consumption habits have spawned the appearance of hitherto unseen formats and creative fields.

A separate mention should be given to programmes made by YouTubers,[19] an Internet phenomenon that is still flooring conventional advertisers, though the services of these new actors are increasingly in demand on account of the number of views they get. At the same time, these new influencers are progressively turning professional, taking increasing care over their productions.

Coupled with web series we have another type of format: '**mobile films**', a new reincarnation of short films, now in **online micro-story** form. Applications like Vine (originally designed to be used and enjoyed by a teenage audience) have caused a few digital advertising campaigns to **go viral**.[20]

But what is truly revolutionary is the possibility of establishing interactive elements embedded in the image, which has been greeted with enthusiasm in the field of journalism and documentaries. **Webdocs** have become one of the most interesting formats on account of the quality and quantity of their products. A few daily newspapers, such as *The Guardian* or *Le Monde,* commonly use them, and institutions like ARTE[21] and NFBC[22] are going in for them in a big way.

In this respect, the best reference to how the Internet has influenced style and **storytelling possibilities** is perhaps a presentation[23] given by Eva Domínguez, a pioneering specialist in these matters. It **combines the concept of interactivity with that of planning** to offer a surprising look at the future of digital audiovisual.

Once again we're treading frontier territory that is always ambiguous and full of hybrids. The digitisation of the world is pushing us towards a mixture of media, supports, formats ... in which **the content is adapted to the circumstances in which it is consumed**. There is thus a developing branch of **videogames** that are increasingly focused on storytelling and bear a resemblance to films, just as **ebooks** are aware of what their true nature is. Because, basically, **if the medium permits, we end up doing it**.

And this is what is happening: so why not combine in a single product a book, a movie, music, games and hyperlinks to other websites? As I've stated, various professions and artistic disciplines are pooling their talents in this respect, while new ones are emerging in response to the need to organise this information into **a coherent whole.**

So... What will happen to pre-existing formats that are inseparably tied to the medium in which they emerged? Well, they **will preserve some of their basic characteristics**, only adapted to digital spaces, whereas other features that had hitherto distinguished them will simply disappear because they've become obsolete or insignificant or because their role and function have been taken over by a new player. (An obvious case is journalism: nowadays anyone can be a reporter if they're in the right place and have a smartphone at hand: just one click and the photo can be shared on Instagram or any other platform. This does not, however, invalidate journalists, as **we still need someone to sort and interpret the information**, making sense of it).

If we ask the right questions and remain attentive and unprejudiced to the phenomena that arise, we will find that the audiovisual world has countless ideas that are already pointing to possible paths of development.

It seems logical to think that **movies will hold their own in the digital audiovisual spectrum**, albeit with variations with respect to their

original form,[24] and that they will have to share their place with newer formats. There is an audience that demands a movie theatre experience and that is the best sign: **as long as there is demand, someone will have to meet it.**

5. Transmedia expansion, co-creation and funding

Nowadays we speak of **active audiences** and I believe there is no better or closer example of this phenomenon that the abovementioned series *El Ministerio del Tiempo*.

Of the many articles devoted to the series, I will provide the link to one[25] that is a good example, especially for its analysis of the **audience's involvement on the social media**.

Aired for just one season, this series has proved that it is possible to make novel products that engage with a **critical audience** – what we have identified as a digital audience.

So far, in addition to the social media sites created by self-styled 'Ministéricos',[26] the Olivares brothers' series has given rise to a whole host of memes[27], fan fiction[28] and a book of essays[29] that analyses the TV phenomenon.

Strictly speaking we ought to refer to this product as **transmedia storytelling**[30] that starts on television and spreads to other media, in this case owing largely to fans, many of them **multiscreen consumers**, who keep up a Twitter conversation on what's going on in the story while they watch the series.

Transmedia storytelling is still in its infancy: there is a long way to go in exploring its possibilities, strengths and weaknesses, though it is clear that the manner of structuring and presenting **these many-sided tales is totally in keeping with the perception we have of our day-to-day life** and with the abovementioned changes that digitisation has brought.

For the time being, the easiest success stories to find relate to two very specific profiles. The first are **franchises** in which the reins are firmly gripped by the creators or owners (quoting *Star Wars* is unavoidable). Here, prequels, sequels, spinoffs[31] and crossovers[32] multiply and grow at the same pace as the list of formats and platforms on which they are distributed, and they are given coherence by the presence of a 'conductor' who is a sort of multiplatform[33] showrunner.[34]

> *Transmedia stories are still in their infancy. They are structured and presented as many-sided tales that are fully in keeping with our perception of life today.*

A second transmedia proposal is related to **marketing campaigns** – something that is not necessarily restricted to audiovisual products. Here we come to one of the fields that people are talking about the most, and which we should keep a careful eye on, namely **content marketing** and the closely linked brand content.

In both cases prosumers[35] can be involved, though often the more creative their contribution the more it stretches the limits. There is an evident tension in the media today: the tricky dilemma of maintaining control while welcoming new co-creation models.

This issue (which deserves a whole essay to be devoted to it) extends not just to creation but also to funding and returns.

Options such as **crowdfunding**,[36] **lend funding**[37] or **P2P funding**,[38] as well as a clever combination of **freemium**[39] and **premium** or PPV[40] have joined the classic economic models of the cultural industries to complement or replace them (usually each project combines several of these forms of funding).

We must forget prejudices and demonising: **neither hackers nor P2P environments should be regarded as piracy**, and nor must we think

that the audience automatically 'doesn't want to pay', because none of this is true, as we will see if we examine the matter sufficiently thoroughly and thoughtfully.

It's true that **micropayment** formulas, including **pay what you want**,[41] are catching on (here we have the example of **VOD** platforms[42]), which again makes it necessary to reflect on the changing model the 2.0. world is bringing.

We should also realise that financial benefits are not always sought: often **engagement**[43], audience loyalty, **creation of a community**, visibility, **renown** or establishing a brand are sufficient goals (especially in the case of brand content). We must always bear in mind what the aim of the project is and, depending on that, choose the appropriate measurements.

One last note in this connection: **Big Data**[44] also generates business, and this is often achieved by 'giving away' **valuable content.** This is another of the paradoxes resulting from the digitisation of the world: at one end we have mass data analysis and at the other the option of ***customising* storytelling**[45] to the point of fully personalising it.

6. A final thought

The time has come to end this survey – which is inevitably partial – of the current state of affairs.

As stated at the start of this text, 'everything is data'. To which we should add that, in order to see and understand this information, it is necessary to give it shape and meaning – which is the job of storytellers.

I would like to end with a sentence as emblematic as the opening one, a quote that reminds us of **the power of stories**, and the reason why we carry on telling them:

> I've seen things you people wouldn't believe. Attack ships on fire off the shoulder of Orion. I watched C-beams glitter in the dark near the Tannhäuser Gate. All those moments will be lost in time, like tears... in... rain. Time to die.[46]

Analogue or digital, everyone remembers this hymn to life, one of the most moving moments in motion picture history. Let's carry on telling stories, then, so that neither they nor we are lost.

Endnotes

1. Gibson, William: *Neuromancer*. New York, Ace Books, 1984. ◂

2. Manovich, Lev: *The Language of New Media*. Cambridge, Mass, MIT Press, 2002. ◂

3. Manovich, Lev: *Software Takes Command*. New York, Bloomsbury Academic, 2013. ◂

4. http://manovich.net ◂

5. Kennedy, John: *How digital disruption changed 8 industries forever*. (online) https://www.siliconrepublic.com/companies/2015/11/25/digital-disruption-changed-8-industries-forever ◂

6. While this article was being written, the following news was released. O'Falt, Chris. 'How the New *Star Wars* Movie is Bringing Celluloid Back to Cinema'. *Indiewire,* 14 December 2015. (online) http://www.indiewire.com/article/how-the-new-star-wars-movie-is-bringing-celluloid-back-to-cinema-20151214?utm_medium=sailthru_newsletter&utm_source=iwDaily_newsletter
According to the autor, Kodak is not shutting down its film manufacturing plant: the decision of a few renowned Hollywood film directors is guaranteeing the continuation of 35 mm format, but we should realise that this situation is one of survival rather than supremacy. Whether or not film dies out is anecdotal. Super 8 isn't dead either, but nobody would dream of considering it the most common support in today's market. However, every technology provides an aesthetic of its own; sometimes we adopt it simply because it's what we have at hand, other times we embrace it voluntarily. Whatever the case, nowadays digital has largely become the usual format for recording. ◂

7. Such as Pixar, with its successes. I realise readers could argue that 'cartoons' already existed before the digital age, and they would be right. But the point I'm trying to make is that we can generate (images of) virtual realities as real as or more real than life itself. If the example of Pixar isn't clear enough, consider videogames with a more realistic appearance such as *Assassin's Creed* or *Grand Theft Auto*, or films like *Jurassic Park*, the first to integrate real image and CGI (computer generated image) effectively. ◂

8. Jenkins, Henry: *Convergence Culture: Where Old and New Media Collide*. NYU Press, 2008. ◂

9. There is in fact a certain type of film that never went beyond this stage. Many Hollywood blockbusters are based on offering a whole load of startling images that shock the viewer from start to finish, without paying too much attention to the story, and rely excessively on elaborate pyrotechnics. (The foremost representative of this type of filmmaking has to be Michael Bay). http://www.imdb.com/name/nm0000881

   It is evident that, for budgetary reasons, we cannot compete with the US film industry in this field. Having said that, we will also have to wait and see if spectacular movies of this kind are really sustainable in the future. ◂

10. https://www.youtube.com/watch?v=Ut79ZutM8cs ◂

11. http://petapixel.com/2015/03/13/the-first-360-degree-interactive-videos-have-arrived-on-youtube/ ◂

12. http://wiki.infinitythegame.com/es/Visor_360 ◂

13. https://en.wikipedia.org/wiki/Massively_multiplayer_online_role-playing_game ◂

14. http://www.incomediary.com/ultimate-guide-interactive-youtube-videos ◂

15. Ruggiero, Laura: *¿Para qué construir una máquina de la empatía?* (online.) https://medium.com/@seirenfilms/para-qu%C3%A9-construir-una-m%C3%A1quina-de-la-empat%C3%ADa-5854f7036917#.f1i6zat2k ◂

16. Gil, María: *El Ministerio del Tiempo hace balance: 'La audiencia también se mide por la calidad y el prestigio'.* Europa Press. 12 April 2015. (online) http://www.europapress.es/tv/noticia-ministerio-tiempo-hace-balance-audiencia-tambien-mide-calidad-prestigio-20150412102312.html ◂

17. https://en.wikipedia.org/wiki/Web_series
Contrary to what is stated in the Wikipedia entry, I do not consider *House of Cards* or *Orange is the New Black* to be examples of web series for the above reasons. ◂

18. It is often thought that web series must be low-budget, humorous products; this ceased to be true some time ago. The following link is intended as an example of the variety of products currently on the market. http://www.raindance.org/10-web-series-you-should-be-watching-in-2015/ ◂

19. https://en.wikipedia.org/wiki/YouTube#Youtube_Partners ◂

20. The video is a compilation of microvideos for a campaign run by HP on Vine, under the hashtag #BendtheRules (online). https://www.youtube.com/watch?v=B9Tx6oll3l8 ◂

21. http://www.arte.tv/sites/en/webdocs/?lang=en ◂

22. https://www.nfb.ca/interactive/ ◂

23. Domínguez, Eva: *Stories are Experienced.* SlideShare. 2 December 2013 (online). http://www.slideshare.net/dominguezeva/stories-are-experienced ◂

24. Montecarlo: *El cine como experiencia*. Audiovisual innovation. 21 November 2015 (online). http://innovacionaudiovisual.com/2015/11/21/el-cine-como-experiencia-y-iii-nuevos-territorios-cinematograficos I include the link to the last part of the post, though I recommend reading the whole article from start to finish. (The links in the first two parts are embedded in the third). ◂

25. Cortés, Ilde: *Analizando 'El Ministerio del Tiempo': un* **éxito** *en redes y televisión*. IldeCortes.com. 9-5-2015 (online.) http://ildecortes.com/2015/05/analizando-el-ministerio-del-tiempo-un-exito-en-redes-y-television/ ◂

26. There are many social media groups (open and closed), communities and profiles, as well as labels (*hashtags*) identifying conversations related to the series. To cite a few examples:

Funcionarios del Ministerio del Tiempo, https://www.facebook.com/groups/funcionariosdeltiempo

Ministéricos Unidos, https://www.facebook.com/ministericosunidos ◂

27. https://en.wikipedia.org/wiki/Internet_meme ◂

28. https://en.wikipedia.org/wiki/Fan_fiction ◂

29. Cascajosa, Concepción (Ed.): *Dentro del Ministerio del Tiempo*. Léeme Editores, 2015. 9788415589310 ◂

30. We take Transmedia Storytelling (TS) to mean a group of stories, set in the same universe, which can be read autonomously, though the whole will always be more than the sum of the parts. The various stories are presented in a huge variety of media (both analogue and digital) and they can be related by highly varied architecture. Although he did not coin the term, the concept is usually attributed to Henry Jenkins. For a broader definition see:

Jenkins, Henry: *Transmedia 101*. Confessions of an Aca-Fan, the Official Weblog of Henry Jenkins. 22 March 2007 (online) http://henryjenkins.org/2007/03/transmedia_storytelling_101.html ◂

31. https://en.wikipedia.org/wiki/Spin-off_(media) ◂

32. https://en.wikipedia.org/wiki/Fictional_crossover ◂

33. This profile is a cross between transmedia executive producer and transmedia architect ◂

34. https://en.wikipedia.org/wiki/Showrunner ◂

35. https://en.wikipedia.org/wiki/Prosumer ◂

36. https://en.wikipedia.org/wiki/Crowdfunding ◂

37. http://www.bbc.com/news/business-18460302 ◂

38. https://en.wikipedia.org/wiki/Peer-to-peer_lending ◂

39. https://en.wikipedia.org/wiki/Freemium ◂

40. https://en.wikipedia.org/wiki/Pay-per-view ◂

41. http://teatroencasabcn.blogspot.com.es/p/blog-page_13.html ◂

42. https://en.wikipedia.org/wiki/Video_on_demand ◂

43. https://en.wikipedia.org/wiki/Engagement_marketing ◂

44. https://en.wikipedia.org/wiki/Big_data ◂

45. https://en.wiktionary.org/wiki/customize#English This is another of the possibilities offered by including programming in the creation and distribution of audiovisual products. ◂

46. Last words of Roy Batty, the Nexus 6 replicant played by Rutger Hauer in Ridley Scott's film *Blade Runner* (1982). ◂

FOCUS: USE OF NEW DIGITAL TECHNOLOGIES AT CULTURAL FESTIVALS

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INTRODUCTION

It is claimed that the digital revolution is now worldwide, or even that it is no longer a revolution. Today digital is something ordinary and everyday. Because technology is part of many aspects of our daily lives, such as the workplace, leisure activities and, to a greater or lesser extent, our personal relations and weekly shop. But regardless of whether or not it is a revolution, the fact is that as many new tools are appearing as there are methods for speeding up processes or facilitating new ways of exploring communication, spreading ideas or being public, being a creator.

We live in a highly technologised society – meaning that some of the processes and practices referred to often, though not exclusively, involve the use of these new technologies. Failure to embrace established changes is tantamount to being left outside the circle of many audiences.

For we are no longer dealing with a single, mass audience; instead, over the past decades the audience has split into groups of followers or enthusiasts of increasingly specific and concrete themes in a process that entails a degree of fragmentation, though some social media can group together people with the same tastes or particular cultural features. Therefore there is no one right way to use the following technologies; rather, it all depends on the nature of the audience – an audience that is furthermore demanding to take part to some extent and to be given the same degree of consideration as the art or creation on view.

Transdisciplinarity is an increasingly everyday phenomenon in what we call the Knowledge Society or digital society. Transversality. Festivals that were once aimed at promoting a particular discipline or field of the arts are undergoing changes and others are emerging in connection with the new media and the new disciplines in art and co-creation that cannot be labelled with a single hashtag or pigeonholed by a taxonomy.

We are dealing with extensive festivals and cultural events that also cut across different

fields; they stem from being the epicentre of a type of experience – one that everyone defines for themselves. As a result of these social and technological changes – and media changes too – the term 'festival' is becoming synonymous with a cultural and social experience more than ever, and its scope can extend to both online and offline, as well as to multiscreen and off-screen. Festivals as temporary experiences are also witnessing how the concept of ephemeral is changing: it is no longer linear but continuous, reaching across the social media where these events can share content, strengthen community fabric and stress their mission. Indeed, it is even possible to imagine new conceptions of a festival and a festival event based on many of the technologies we will go on to discuss.

Returning to practical issues, we will examine how a few technologies such as wearables or the Internet of Things can improve processes as trivial as queuing for drinks at concerts, receiving responses on the social media to a query that can be useful to more people, or locating friends who are scattered around the same venue attending activities going on at the same time.

Some of the technologies discussed here are inexpensive and can maximise the festival's mission and dissemination. We will see that one of the characteristics that distinguish festivals from fixed and permanent cultural spaces is that their infrastructure and tools are useful for a particular event. They are not large, complex infrastructures but practical applications that can be easily installed and uninstalled, or are dynamic and flexible.

This study sets out to examine some of the trends in new technologies, but also to pose the question of what we mean by 'new'. For example, in this Focus we ruled out the possibility of analysing websites in a separate section. Probably all festivals have a website or logbook or Internet corner in which to present themselves and make known their programme or action. Although web and blog technology is evolving and new improvements are emerging (which we will examine in the next-to-last section), it is basically a familiar and everyday concept. Some scholars are even referring to the current moment as 'post-digital'.

Therefore our aim is to provide a picture of the technologies that continue to be new as far as their implementation is concerned – sometimes largely unknown as they are still in their infancy and have emerged only recently – but are being successfully adopted at a considerable number of festivals, and are currently in use. We will describe these new technologies, listing more than 50 domestic and international examples from the world of literature, music and the performing arts as well as multi-genre festivals in order to give an idea of how these technologies are applied in their day-to-day running or at specific moments and can be used as practical tools for festivals, art events or even online action and to improve experiences and communication with people, the audience.

New technologies that are transforming the arts and how festivals are structured or approached... optimising the use of the social media using various strategies... festival programmes that are turning into mobile applications with greater potential... small, discreet beacons providing contextualised information... you will find all this and more in this year's edition.

1. NEW TECHNOLOGIES AS CONTENT

The past years have witnessed an explosion of new types of festivals, whereas the arts have been experimenting with new media and new tools for decades. For example, the performing arts have seen the emergence of new disciplines such as artistic mapping applications developed from audiovisual experimentation and the analysis of surfaces.

Music, literature, theatre and dance festivals structured around disseminating and promoting a branch or discipline of the arts currently coexist with new approaches to the exhibition of content and to the very concept of festivals, as is also occurring in other fields.

We are finding that more and more festivals are being devoted exclusively to new media, be they emerging trends in electronic music and the audiovisual sector (which are increasingly linked as a joint experience), new audiovisual formats such as web series, or transmedia storytelling and festivals that are embracing new proposals within their thematic scope in which new technology plays a role of some kind in the process or staging.

Furthermore, some festivals are experimenting, so to speak, with hybridisation. Hybridisation, fusion and remix are dynamics that are almost synonymous with the current times – festivals that are neither music, nor literature nor film but all three at once and go further, aspiring more to exhibit ideas, convey a message or promote creativity than to showcase a formal discipline or genre.

This change is more than an adaptation with respect to the same hybridisation that is being glimpsed in the arts. Creators are becoming increasingly loath to find themselves pigeonholed in a formal discipline and the new media are a good example of how the written, the visual and the interactive can be part of the same (inter)text. We are also witnessing experimentation with techniques, materials and formats to devise new forms of expression.

Meanwhile, festivals, as well as starting to adapt to this shift in focus that the fields of creation are experiencing, are finding that their own role can go some of the way towards meeting audiences' new requirements: offering attendees comprehensive experiences of exploring open ideas rather than a closed category and spaces that involve greater action (so that they come away with a thought or new ideas rather than just passive memories) and a fair or large amount of participation.

Boundaries are either merging or fading: art and creativity, popular and alternative and academic, plastic and ephemeral, audience and creator... New technologies are continuing to spur many of these changes as well as being excellent means of creation and distribution with undefined scope. In some of the festivals we will be examining here, the boundaries between disciplines as well as between structures and types of event are becoming blurred.

The Focus will begin by taking a look at festivals whose operation is based on new media or whose structure has been marked by the engines of change of Digital Society. Because festivals are hubs of experimentation and innovation that ultimately have an impact on attendees and participants and on the current understanding of these forms of culture.

1.1. New media festivals

The new media deserve spaces where they can be showcased and shared and can provide opportunities for interaction between the creators, audiences and agents involved. As the range of new creative ground broadens and the digital arts become more popular, festivals are progressively emerging as a reflection of this new scene.

Longstanding festivals are increasingly welcoming works and artists committed to the use of new technologies in order to offer a specific staging or a different or broader sensorial experience, or to employ more effective tools for defining or extending the narrative partly through osmosis (in other words, because more and more artists, both new and accomplished, are operating in this field), though we also find cases of festivals that have emerged specifically to showcase new disciplines and particular media.

The **Geneva Mapping Festival** started out in 2005 and is held every year around May. It brings together a great many international artists and creators from the audiovisual, video jockeying (VJs) and mapping fields (an audiovisual technique that consists in projecting customised moving images, previously mapped or scanned, onto a three-dimensional surface such as the façade of a heritage building, so that image and surface blend to create a new dynamic experience).

This festival has sections that are held in fixed installations during the time it runs, and also programmes events where these arts converge, for example featuring music (electronic music concerts but we also find a few with art music), dance, performance and cinema.

There is a festival of this kind in Spain: **FIMG** (Girona International Mapping Festival), which, as well as featuring installations and performances, interestingly appeals to a wider audience, with a focus on local schools and competitions for amateurs. A conference held during the festival brings together professionals and creators from the mapping and new audiovisual sectors as well as agents who are already using this technology (education, heritage, advertising...).

On the subject of new media and digital art, we cannot fail to mention the **transmediale festival for art and digital culture** in Berlin. This festival, which emerged as a spinoff of the Berlinale film festival in 1988 and was originally called VideoFilmFest, has evolved over more than 20

years into the festival par excellence of digital culture in all its dimensions.

To give it greater momentum, since 2001 each edition has revolved around a particular theme or idea. For example, in 2001 the theme was *Do It Yourself!*, in 2011 *Response:ability* and the forthcoming edition in February 2016 will centre on the idea of *conversationpiece* (on the so-called post-digital art and culture and keenness to do, share and secure).

Researchers, artists and creators from all over the world are invited to exhibitions and installations, film and audiovisual screenings, stage performances and other events, some for professionals. In addition, the **CTM** festival (originally **club transmediale**) arose in 1999 as a side event focusing on electronic, experimental and digital music and is held on the same dates as transmediale.

Speaking of digital arts might bring to mind visual arts and music, but literature and storytelling have not been immune to changes either. We find, for example, the **Kosmopolis** festival (Barcelona), a biennial event hosted by the Centre de Cultura Contemporània in Barcelona which is defined as 'the amplified literature fest'. It is a space that examines literature from its oral, print and digital dimensions, extending the very concept of storytelling, as well as transmedia (the use of various media to explain a story) and crossmedia (using various media to explain the same story repeatedly in each of them), or the development of the publishing industries and literary consumption in the information society.

The type of content chosen for the festival consists of lectures and debates, workshops, audiovisual screenings and poetry slams (including the Poetry Slam Barcelona, an oral poetry contest). These events bring together writers, publishers, filmmakers, poets, journalists, developers of videogames and other kinds of local, national and international creators.

The festival also features programmes focused on schools in the metropolitan area and on families, which are aimed at fostering a closer relationship and dialogue with literature and the changes it is undergoing. However, what distinguishes it from other festivals is that between editions it runs an ongoing programme in the same format.

Today not all festivals need a specific physical space. #TwitterFiction Festival[1] (since 2012) is a participatory five-day event that reflects this social platform's trend for 140-character stories. The festival is hosted by Penguin Random House publishers and the Association of American Publishers, as well as by Twitter itself.

Users are not simply invited to write something with a hashtag. The involvement of US and British writers from various genres is previously scheduled in activities that include book launches and real-time storytelling. Users can take part and interact with them through poetry, images and Vines (very short videos), collaborative stories written between several people sporadically in a non-linear manner (because by allowing a tweet to be reposted, anyone can carry on from any point, creating unexpected ramifications in the story) and even the creation of fictitious accounts held by literary characters and parody versions.

The fact is that storytelling has aroused great interest in the past years. The **Future of Storytelling** festival (New York) is based on the following question: 'As technologies continue to evolve, how will we create, share, and experience the most fundamental unit of human culture—the story?'

Storytelling as a method of creating and explaining stories, in whatever medium, has become a significant topic for creators in recent years on account of the constant challenges we face among so many technological and media as well as social changes, but it is also of particular interest in the creative industries and in advertising and marketing.

On the subject of digital arts, it should be inevitable to speak of videogames practically as a native art. Throughout their history, temporary exhibition spaces have concentrated more on a sectorial and financial approach (fairs and conferences), though they also bring together a large number of enthusiasts. Apart from the famous **E3** (Electronic Entertainment Expo), in Spain we already have **Gamepolis Videogames Festival** in Malaga, which features as well as exhibitions and presentations a variety of debates for enthusiasts, concerts (related to the music of videogame culture) and tournaments. There is also **Madrid Games Week,** in particular the Gamelab Academy, whose lectures bring together the videogames industry, universities offering formal training, and fans.

The notion of digital art and culture goes beyond the field of technology to explore new ways of doing, seeing and feeling, and therefore, if there is anything these festivals have in common, it is undoubtedly their cross-cutting approach to embracing digital.

1.2. Multi-genre festivals that are opening up to new media

Speaking of hybrid art is tantamount to speaking of an art in which the sciences and emerging technologies play a major role, so much so that the traditional distinction between arts and sciences is practically non-existent. In a sense it also amounts to speaking of a trend witnessed at least in the past decade for festivals that have emerged to explore and showcase a theme (as opposed to just a style or artistic discipline) and to create an active international hub of ideas materialised into art and objects or projects and people, or festivals that have progressively adopted this perspective over the years, adding new layers of intervention, mutating.

The previous section included festivals of this kind, characterised by transdisciplinarity, fusion and merging, which are becoming increasingly less unusual (and will continue to do so). New technologies have played an important role indirectly, in that they have acted as catalysts for part of this merging of disciplines in art and creativity (including the critical blurring of the boundaries between artistic and creative) which enables them to operate in such a technologised and globalised changing world using the languages of today. Ultimately, the point is that the very concept of culture is also changing as a category that goes beyond the material to embody a more anthropological and humanistic sense.

We find theatre productions that use mapping applications, performances that require the use of an app[2] to be experienced in full, art that creates on the basis of large amounts of data which we generate among ourselves using a variety of devices and channels (Big Data) and art generated by machines (under the category of so-called glitch art or art of graphic errors in videogames and digital images).

But technology is also directly involved in festivals because it is giving rise to new possibilities of expression, exhibition and dissemination. As well as festivals devoted to the merging of arts and technologies, such as the examples mentioned above, we are witnessing the emergence of festivals that are designed in a culturally digital framework and therefore cut across various types of media and formats.

We might again include transmediale in this category, for example. But for festivals that embrace many fields, a primary example is **SXSW** (South by SouthWest). Held every year

in Austin, Texas, around March, it divides its attention between music, film and interactive art, almost as if it were several festivals in one. Interdependent could be the word used to explain the link between these fields or sections.

In addition to exhibitions and shows, it features lectures and debates between creators, thinkers and technology professionals (including company directors) on digital culture and trends such as privacy, women in technology... It has a large following of professionals in new technologies and attracts the interest of a broad spectrum of audiences. SXSW defines itself as a group of conferences and festivals that 'offer the unique convergence of original music, independent films and emerging technologies'. What is more, as we will see later on, its adoption of the latest technological innovations also extends to tasks such as managing and encouraging festival goers.

Sónar festival (Barcelona, around mid-June) is an example of ongoing development in this field. It started out in 1994 as the 'International Advanced Music and New Media Art Festival', a space that brought together electronic and digital music and multimedia arts and consisted of two different parts, Sónar Day and Sónar Night, held in different locations.

But times change and the festival has evolved, as well as expanding internationally. In 2015 its subtitle changed to 'Music, Creativity & Technology', though up until only a few years ago it was 'Advanced Music and New Media Art'. For years it featured sections such as SonarCinema, as a separate division within Sónar Day, but the creation of Sónar D+ in 2013 powerfully marked the character and identity of the festival, at least the Day part.

Conceived as a conference, it showcases technological innovations in the field of new media, arts than are tending to be applied in music especially, through an exhibition space for technological creators and startups, techno-artistic installations and shows, hardware and software workshops, and lectures. In short, it is a digital and emerging music festival that also extends to related areas, including the full range of digital culture itself (privacy, DIY, transmedia, the Internet of Things...).

Mutek is another festival which, despite focusing on sound and music, is described as an 'International Festival of digital creativity'. The reasons can be simple: where is the boundary between electronic music linked to audiovisual creation and digital experimentation? Many contemporary artists now operate beneath a broad umbrella of unbridled creativity and do not pledge loyalty to a single discipline or academic field, and in this respect the festival adapts and 'mutates' in accordance with new factors in order to provide a specific experience and, ultimately, fulfil a specific mission:

> MUTEK's programming intends to create a sonic space that can support innovation in new electronic music and digital art. This is a world of constant evolution and incessant refinement – the 'MU' in MUTEK refers consciously to the notion of 'mutation'. [About section on both the website and Facebook, taken from the English version of the former]

On the subject of hybrids, we might also mention festivals that take place in one or several physical spaces and on the Web. As stated in connection with **#TwitterFiction Festival**, we will gradually see the emergence

of more and more festivals that could be held exclusively online, as is already occurring with events such as webinars (seminars, roundtables and online conferences where one or several speakers give papers watched by dozens or hundreds of spectators who can become involved through a chat box or messaging, for example to ask questions), digital art shows, exhibitions and a whole host of possibilities.

We thus find, for example, the use and application of live streaming – that is, the broadcasting of an event using **Google Hangout** connected to **YouTube**, or as a specific private service whereby the broadcast is embedded on the website, or a mobile and social service such as **Periscope** (a Twitter app for capturing an event live using a mobile phone), which a few museums are already using to broadcast openings, seminars and conferences. All that is needed is a good camera (it should be remembered that part of the quality is lost in the broadcast), a microphone or audio connection, and a good and continuous Internet signal.

These new (and some not so new) tools help reach new audiences and boost their participation, as some of them feature chat boxes – an excellent way of lending dynamism to question and answer sessions, for example. And this is not necessarily incompatible with maintaining paid admission, as streaming does not extend the first-hand physical experience, even though it does give an idea of what can be seen and allows a cultural event to be shared and enjoyed by people who wanted to come but were unable to for some reason, and it is therefore an effective promotional tool in many respects. We will examine in greater detail the use of streaming and extended online content, providing interesting examples, in the chapter on Digitisation.

2. NT BEFORE AND DURING THE FESTIVAL

2.1. Social media and communities

If there is anything a large number of festivals, both national and international, have in common, it is the use of at least one social media site – especially Facebook and Twitter, followed by YouTube and Instagram.

The generally ephemeral nature of festivals (in that they run for a few specific days of the year) means that they use the social media differently from cultural spaces where things are constantly happening all year round. Postings are generally concentrated on pre-festival campaigns, for example in connection with booking tickets and packs, on advertising activities and promotions during the run-up to the festival, during the festival itself to provide information on forthcoming activities and share interesting happenings and dates of presentations or talks; and during the weeks subsequent to the festival to gather people's impressions, accounts and feelings.

The social media are not merely promotional tools – at least not in the old-fashioned sense (through impacts on passive spectators who had previously had few channels of communication). The good thing about these platforms is their two-way communication, as anyone can communicate with the organisation or inform their followers and contacts about the festival.

In this respect, we are also witnessing how the tables are being turned on relations between cultural organisations and the public in the traditional sense. In recent years, and more intensively in the past decade, the public has gone from being a large mass audience to various, increasingly segmented audiences. This process neither stems from a single factor nor is due exclusively to sociocultural changes. The new economic models are partly responsible, but so are new and digital technologies, such as Web 1.0 (forums) and Web 2.0 social platforms (social media, weblogs with social networking tools...).

What is more, the model of a passive audience who comes along to enjoy whatever is scheduled is obsolete. Audiences are now groups of people keen to become involved in some way, or to have some kind of control over or role in cultural production. This involvement may range from simply having greater variety to choose from and more information to active participation as producers, promotors or even co-creators. We will examine this point in greater depth later on in connection with crowdsourcing, together with the role of new technologies and how to make the most of them.

As for the use of social media, we find different strategic approaches and different audience profiles. These sites can be employed as a means of informing audiences in real time before and during the festival. They can also be used to explore and extend the mission of the event (disseminate, promote and encourage...) by curating its own and/or other content in order to cause a greater impact; or to strengthen a community and boost audience loyalty (on the understanding that the most active followers are usually our most loyal audience, though the relationship can also be improved through close, constant and active communication), combining different approaches and purposes[3]...

For example, the **Almagro Classical Theatre Festival** considers these tools to be essential for engaging with its audience, but also for furthering the aims and mission of this festival throughout the year – namely to disseminate the heritage of the Baroque period, including its plays (through Facebook and Twitter, which are two of the platforms most widely used by audiences aged over 20).

Although the organisers admit that it can be laborious to achieve the coveted engagement or involvement of followers through these social media, they would not do without these sites because of their huge possibilities. It should be realised that these tools also make it possible to segment communications and advertisements aimed at specific audiences (for example, Facebook allows them to target people by interests, based on what they 'Like'), and to rebroadcast users' and third-party content posted on these media.

In this respect, a few festivals and other cultural fields now view the social media as a means of broadening the event's mission in a similar way to the Almagro Classical Theatre Festival. In other words, these digital spaces can be regarded as tools for curating content, even content targeted at specific audiences, and ideally with followers' collaboration.

The organisers of the rock and heavy metal music festival **Resurrection Fest** tell us that the social media are one of the most important digital tools they use, if not the most important one. They expect to achieve a very active presence throughout the year on Twitter, Facebook, YouTube, Instagram and Spotify. They have dozens of thousands of followers from all over the world (but especially Spain) on all these sites, each of which is used for a specific purpose and kept up regularly.

For example, they use Instagram to share informative and promotional images of the festival, but also photos related to the festival that are posted by followers, even showing them in their home environment, with merchandise and plenty of humour. It is interesting to note how they incorporate fans' spontaneous customs and practices into the festival storyline, such as

a few who have been attending for several years and dress up in costumes, with recursive and emphatic hashtags such as #resudisfraz.

They use Twitter both to provide information about various activities and promotions and to generate conversation. We find a steady flow of tweets from fans under preferential hashtags (for example #RF2015 or, with a view to the forthcoming edition, #RF2016). In addition, they reply almost immediately to all comments received with the same degree of familiarity and aim to attend to them all in detail.

Taking a very similar approach to their audience, they use Facebook in very much the same way as they do Twitter and Instagram: to document the festival and as an album for images of the festivals. Once again, we find that followers are very active in posting comments and reposting the organisation's messages.

Furthermore, around November, Resurrection Fest uploads to YouTube recordings of some of the previous year's concerts, as well as launching presales for the next edition. The organisers manage to create plenty of expectation, as they focus on the longest-awaited and most appreciated concerts and post the date and time of when they will upload the best moments from the previous year's gigs. They also share entire concerts of past editions (the 2014 concert was uploaded around the time of the 2015 edition). In this respect they use YouTube as a channel and content manager which they furthermore embed on their website and disseminate online.

According to the team of organisers, these tools provide an essential 'two-way channel' to work with. They weave networks, build a sensation of community around the event and have been working on this for years, day by day, with the whole Spanish and international heavy metal music sector. With these digital tools it is important to persevere over time and with values.

The **Mérida International Classical Theatre Festival** has established and developed its social media strategy over its past four editions. Although present on only four platforms (Facebook, Twitter, Instagram and YouTube), it has thousands of followers and its social media presence is causing a significant impact on the evolution and visibility of the festival.

The organisers use Facebook and Twitter to share news and novelties related to the festival, ranging from the activities themselves and press reviews to the presentation of budgets in a transparent manner, boosting visitor confidence. They also use Facebook photo albums to show high-quality pictures of past editions; some of these are posted on Instagram together with more familiar or curious pictures (taken from more subjective angles).

They use YouTube to share promotional videos, fragments and summaries of performances, and interviews with some of the artists who have taken part in the festival. Months before the festival begins, they prepare a set of videos featuring some of the main characters in the plays that are due to be performed, devoting a few minutes to some aspect of their role and encouraging people to attend. In other words, they use it to create their own content, taking advantage of the well-known and popular national and international actors who are due to perform at the festival and subsequently distributing this content on other media and social networks.

The festival's organisers stress the importance of working and cultivating relations with influential people from the culture sector (once again, creating networks whose online and offline boundary is becoming vaguer). In hindsight, they consider and stress that these tools are of crucial importance as they have enabled them to achieve a visibility and contact with the audience that are unprecedented for a festival devoted to Greco-Latin theatre.

They also consider it essential to have as many online ticket sales channels as possible to make ticketing more accessible and efficient. It is not that they sell directly via the social media, as it has been proven in many other sectors that the social media are not useful in direct sales; rather, they play an important role in that they provide people who go on the social media to find further information and think about buying tickets with a way of facilitating the ticket purchase process that makes the festival's functioning sustainable.

The theatre and performing arts festival **Temporada Alta** mainly uses Facebook, Twitter, Flickr, YouTube, Issuu and Instagram. We will analyse Issuu as a tool for sharing and digitising related documentation (catalogues, dossiers as in the case of this festival, etc.) in greater detail in one of the last sections of this Focus and will therefore concentrate more on the rest of the social media used by one of the most prolific (running for more than a month) festivals in Spain.

Its significant extension in both time and geographical location (for the latest edition in 2015, the activities were planned in different places and venues in Catalonia, especially around the city of Girona), as well as the list of works and artists involved create plenty of noise on the media (traditional and digital). The organisers know how to manage it. They combine public relations with press relations and the festival's own identity and established reputation in the performing arts.

On Twitter they harness and repost the considerable noise generated on this platform, interspersing it with information and reminders about forthcoming works. This information ranges from positive comments and opinions left by followers to all the mentions, articles and local and national press reviews that have been shared. It is therefore a vehicle for endless impacts on followers and for strengthening its image as a leading festival of a high standard.

Activity on Facebook is less intense by comparison. As with the other social media, activity throughout the year is focused on sharing news of the works or artists featured in previous editions. It becomes more intense around August, when the organisers launch the poster images, advance ticket sales, and the press conference.

As the date draws near, action is further stepped up by announcing the programme and the companies taking part in the first days of the festival, which begins in October. During the festival only information on the activities, which are considerable in number, is shared. For this reason they are very careful about the number of daily posts (no more than four), choosing strategic times – at midday and in the afternoon, when people stop working and check their personal accounts and are more receptive to information on leisure and culture.

Furthermore, on Instagram they share material ranging from promotional images of the shows yet to be performed to photographs of the formation of some of the guest companies, or audiences' memories (even through regrams or reposts of images from other accounts, acknowledging the source of the original post). They then stop using this visual social medium after the Latin American edition (there have been

three so far) until the beginning of September, when they concentrate on the new edition.

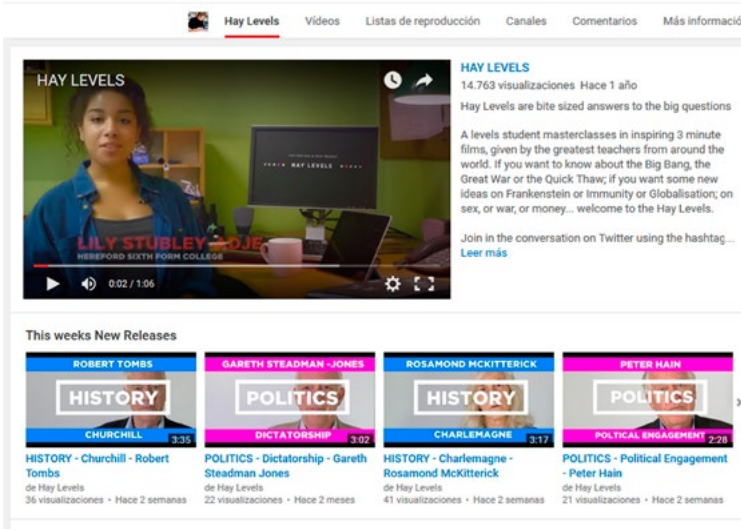
In 2015, to encourage participation, they hosted five simultaneous contests on Instagram – a ploy that other festivals are also starting to adopt. For example, for one of the competitions festival goers were encouraged to take a selfie before the start of a performance. Another was for photographs related to the festival in general. Another was for children wearing theatre masks. Anyone wishing to take part had to take photographs with a mobile only and share them on that social media site under a series of hashtags (#OaSiTA, #ReviuTA...).

Depending on the contest, winners were given various prizes such as tickets or sets of sponsors' products. This helps make a noise, bolster the festival's presence on the social media and also gauge festival goers' degree of involvement.

HAY Festival is one of the most impactful festivals in the literary world, with various editions held in several countries throughout the year (it is interesting to note that each edition has its own Facebook and Twitter profiles which are managed independently in the host country's main language).

The main purpose of these social media accounts is to share information, promote the events and repost content generated at all the festivals and also, from time to time, by third parties, thereby furthering its mission to celebrate and promote all aspects of writing. They are on both Twitter and Facebook, with a bigger presence and more varied content on the latter.

Special mention should be made of the content they generate to repost it on their social media accounts and upload from the YouTube account 'Hay Levels' (in parallel to the official Hay Festival account). These three-minute videos are designed to help students prepare for their A-level exams (basically to help them write and think better) and are recorded specially in a studio by leading writers, artists, researchers and thinkers who explain a particular subject related to these examinations.



However, given the topics dealt with, the organisers repost them on the other two social media they are on. Every shared video generates a good level of conversation – for example, as can be seen in Facebook. They also share interviews and lectures recorded at festivals on their official channel, and the occasional short video with some of their guests recorded specially for digital format.[4]

Festival Kosmopolis, which, as stated earlier, is strongly focused on bringing together literature, storytelling and new media, and new technologies (it defines itself a festival of amplified literature 'in manifestations of the spoken, digital and printed word[5]), is committed to the social media as vehicles for dissemination and two-way communication. It has Facebook and Twitter profiles and content galleries on Pinterest, Vimeo and Flickr.

Although the festival is biennial, between the various editions it stages a host of related activities (once again, the concept of amplified festival) at its operational headquarters, the Centre de Cultura Contemporània de Barcelona (CCCB). This enables it to share content such as videos of lectures and activities held regularly under the name of Kosmopolis, and on Twitter it

reposts content related to other activities carried out at the institution, as well as third-party activities from time to time on related issues (literature and storytelling, specific genres...).

However, as the festival date approaches, the organisers set in motion a protocol to intensify and give impetus to their social media activity (which is begun nearly half a year beforehand), providing staggered information on the schedule, names of guests, themes, articles and own content on the festival's website and links to related third-party content, making greater noise and sparking increasing comments.

During the festival they give priority to managing content on what is going on in real time at the roundtables and conferences held on its activities sporadically, seeking to encourage people already present to take a look at the upcoming activities. Finally, when the festival is over, they continue with the 'post' phase in which they basically gather together everything that has taken place and the content generated, as well as posting accounts of the activities on their own website.

This is an interesting case in that the website evidently becomes a 'social' tool, as it is placed at the disposal of the entire digital communication strategy implemented through the digital platforms on which the festival has profiles.

Getafe Negro, the Madrid detective novel festival, uses only Facebook, Twitter and YouTube. Like many other festivals, it steps up action on the first two around the time of the event, starting two weeks before and sharing activities, but also providing a brief account of the activities on at the time. On YouTube, in contrast, it shares videos of the entire roundtables and presentations, as well as launching a cover design to link this content to its brand and give it a more coherent and integrated appearance.

On Twitter, for example, the organisers quote a few excerpts from the roundtables or presentations given on it, sometimes accompanying them with images. They use Facebook more extensively for this purpose, always accompanying these excerpts with images, as in recent years greater importance has been attached to the visual aspect for communicating and reaching audiences better on this social media site.

It is interesting to note how they give impetus to Facebook throughout the year, as well as sharing some of the content generated during the festival on it, such as the abovementioned videos. But the quotations from works belonging to the genre or from historical figures seem to be their own and could well be taken from a mystery or suspense novel.

Whereas they post short messages on Twitter more frequently, given their short-lived nature, occasionally accompanied by images, once again they do so more extensively on Facebook and accompanied by a related image, always duly credited, or even a soundtrack that somebody already posted on YouTube. Their approach is therefore more orientated to curating content that inspires and entertains their followers, with whom they remain in continuous contact throughout the year.

The fantasy, horror and science-fiction literature festival **Celsius 232** (a reference to R. Bradbury's *Fahrenheit 451*) is an example of an approach to the social media centred on all the fandom of Spanish (and partly international) fantasy

and science-fiction together with the citizens of Gijón, in the sense that the festival not only works *for them*, as they are essentially its audience, but *with them*. The social media are one of the many instruments the organisers use to create and consolidate cultural fabric.

The boundaries between fan, writer or creator and professional (publisher, etc.) have been blurred for some time in science-fiction communities (many professionals and artists in the fantasy, horror and science-fiction fields tend to be great fans of these genres and are usually well connected with other fans). Understanding the dynamics is another key to success in fitting together the abovementioned pieces.

This festival only has profiles on Facebook and Twitter, which are sufficient to meet its needs with respect to communicating and giving impetus to the community before each edition (it should be added that it is also a good example of a festival with a relatively small budget compared to others listed here).

Its communication strategy is closely linked to how it operates in general, and is targeted at two audiences: locals, and enthusiasts of the genre. The social media are one of many tools and types of content it uses, not separately but as part of a whole.

In the case of the first audience (local), its interest lies in the fact that the citizens of Gijón, where the event is held each July, embrace the festival as part of the city's identity. Apart from focusing the programme throughout the year on various parts of the city, or joining forces with agents such as bookshops, the festival also helps disseminate on the social media the activities in which it is involved and which are based in the city.

In the case of the second audience (fans of the genre), the festival's organisers have first-hand knowledge of their preferences and tastes, but they have also been in contact with these people since the first edition of the festival. They support initiatives with some of the agents related to the festival (publishers, authors...) and know how to generate debate or stimulate involvement in them, in a very familiar and straightforward way. They find that improving local and audience networks makes the experience much more valuable and long-lasting for attendees, which is very important to this event's team.

They always answer all followers' queries, if necessary redirecting them to bookshops or other local events (for example, when someone asks if an illustrator is coming or where they can buy one of the books presented). They tell us that they do not try – and believe this is very important – to 'capitalise on activities held in connection with the festival as if they were our own'. By this they are referring, for example, to an initiative taken by some of the attendees of organising dinners with a few authors, informally known as the 'Celsius dinners'. They support the initiative through the social media, but acknowledge that the initiative belongs solely to its original organisers, the enthusiasts who attend. In taking care of the community, they do not distinguish between on and off-screen, or between on and offline. All their social media actions are based on this deeper and more eclectic view of these tools.

The **International Fantastic Film Festival of Catalonia** (popularly known as Sitges Festival) also has an interesting social media strategy. It has Facebook, Twitter, Instagram, YouTube and Foursquare accounts. It uses the first two throughout the whole year, whereas the other three are used only when content has been generated or when the festival is approaching, as well as during press conferences and presentations. Once again, as with other festivals, communication is intensified around the time of the festival in relation to activities, film screenings, prizes and Zombie Walk, one of the activities that arouse the highest expectations among the unconditional followers who return year after year.

The organisers' Twitter and Facebook strategy is to post information on current activities, promotions and competitions (such as Phonetastic, which will be examined later on) and follow-ups throughout the year of films presented at previous editions – for example, when they are premiered in major theatres, or if any of the main people (actors, directors, producers...) win prizes, or related news, but all in connection with the festival itself.

Even so, so many significant agents from the fantasy and horror film world have taken part in its 48 editions that they cover practically the whole of the genre.

During the year they also stage activities in conjunction with other organisations in the Barcelona area and Catalonia, such as launches of related books on which they have collaborated in some way, or with media and film institutions such as the Catalan film academy, the SGAE (Spanish society of authors, composers and publishers) and even other minor regional horror and fantasy film festivals. Throughout the year they thus supply content of interest to fans of these genres and likewise help disseminate films of this kind.

The organisers furthermore tell us that it is extremely important to them to reply to all the questions and comments they receive, which require answers, especially during the run-up to the festival, which is when interaction of this kind intensifies. Around this time they have a team of three people devoted specifically to this task.

Apart from online networks, in recent years their efforts to cultivate relations with the local community of the town of Sitges and with the fantasy film sector (including fans) have been vital to achieving their objectives and dynamics. They have gained visibility on the digital platforms through some of the abovementioned collaborations with other organisations and through the degree of interaction they achieve in Facebook, for example, where they have a high profile. In a sense, it is evident that social media technologies facilitate many processes but are no substitute for the whole process of weaving the cultural fabric.

L'Alternativa is a film festival specialised in very specific genres, especially those that are not easily found in cinemas or at mainstream festivals: it 'makes the hidden visible'. The festival is on various social media sites – Facebook and Twitter, Google+, YouTube and Dailymotion, Instagram and Flickr – and also has a blog.

The media the organisers use continuously throughout the year are Facebook and Twitter. The days around and during the festival see the most action, as it is then that they share information about screenings, presentations and prizes, but during the rest of the year they also post information and news related to alternative film genres and screenings of this kind in the city's cinemas. Their philosophy is to reply to all queries and comments received and to repost the most grateful comments and mentions by other agents of the audiovisual and culture sectors, among others.

They use Instagram during the festival only, beginning two weeks beforehand, by posting a few images in connection with the forthcoming edition. In 2014 they also launched an activity featuring prizes – a draw with tickets for the special screening of the prizewinning films – in which attendees could post a picture taken in a particular corner of the festival using a specific hashtag (to allow all the photos posted by users to be found). Flickr, which is less social, is used to handle the official photographs of each edition to be shared on the Internet.

They use the video channels YouTube and Dailymotion for separate purposes. The former is used for sharing videos related to the festival in general (trailers and clips, the trailer of each edition of the festival, and footage of some of the activities such as openings or prizes), while

on Dailymotion they only share videos of the roundtables and papers given in the section for professionals.

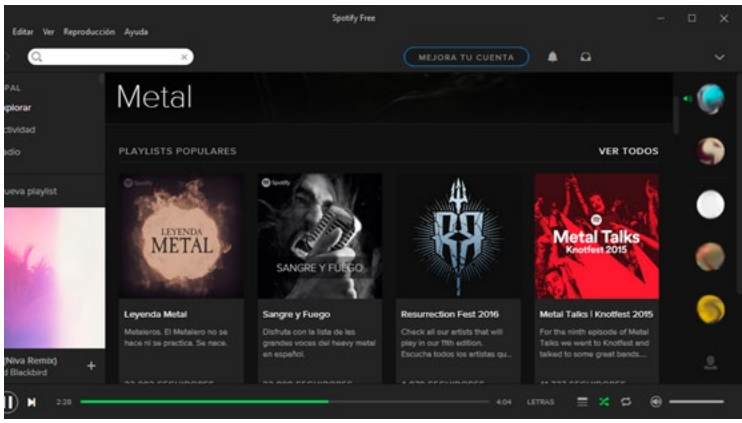
CineKid Festival is an event focused on the audiovisual world (including new media) for children and takes place in Amsterdam during the autumn holidays in the Netherlands. It aims to familiarise youngsters with the language of film and the new media, and is centred on promoting the quality of visual culture in children aged over four, in order to achieve what is sometimes called media 'literacy'. The participation of this very special audience is another of the most important factors.

The festival's presence on the social media is divided between Facebook, Twitter, Google+, YouTube and LinkedIn. The latter is geared more to sector professionals, as is only logical, while with Facebook and Twitter the focus is more on parents and tutors than on children (minors aged under 14 are not allowed to register on Facebook, for example).

Using a very familiar and friendly tone, the organisers present the various activities or review some of the content that has had an impact on traditional media, such as chronicles and articles. As the audience is so special (although the activities are aimed at children, they must be brought and enrolled by their parents and legal guardians) the communication must be designed very strategically and appropriately.

Going back to music festivals, one of the platforms most widely used to communicate and engage with audiences is **Spotify**, followed by **Deezer**. The former is fairly popular with Spanish festivals. The organisers use the festival's Spotify accounts to create a profile and compile lists of music related to the groups who perform at their events and allow other users to follow and add them to their favourite playlists.

For example, **Primavera Sound Festival** began using Spotify in 2011. During the first year it had only one playlist, but over the years it has compiled several for each section of each year's festival (Primavera Sound, showcases of PrimaveraPro) and its separate editions in other venues such as NOS Primavera Sound (Portugal), and posts them permanently. The good thing about this platform (though this also applies to Deezer) is that it allows a playlist to be embedded, as the organisers have done on their refined website, so that when users browse the website they can view and play the tracks meanwhile.



In contrast, **Resurrection Fest** compiles only one extensive playlist for each edition featuring the music and albums of the artists due to take part and makes it available long in advance, nearly one year. What is more, if you go to the *Metal* section under the *Explore* menu, you will see that this playlist is commonly recommended among the best and is a reference point in this genre for Spain.

Several things can be achieved through Spotify (the most widely used online music platform in Spain and other countries, whereas Deezer is more popular in France, for example): communication with the groups, that is the festival's content, as after the names of the performers have been announced one of the first things followers do is search for and listen to those they are not familiar with and even those they already know (whether they have already bought tickets or are thinking of doing so); therefore, compiling a playlist speeds up this

process by facilitating the search and creating a more enjoyable festival experience. Around the time of the festival, these playlists motivate future attendees even more. And it is not unusual for a festival's followers to compile their own playlist, as with Afropunk.[6]

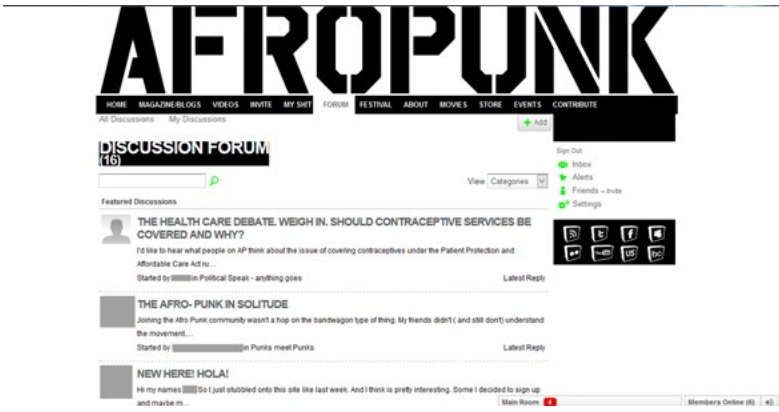
Returning to the main issue, one of the benefits we are seeing with social media platforms is how they are used to generate or rather give momentum to a community made up of different types of followers and fans of a brand – for example, a festival – who can range from people interested in its theme and the content it shares on social media sites to faithful attendees who never miss an edition.

We can also identify different degrees of involvement and what they yield in return. For building a community entails more than just sharing interesting links and waiting for people to respond or share them. It involves joining forces in public relations (however minimal) on and off-screen – as witnessed in a few cases such as the Celsius 232 festival – and ensuring that attendees have a good experience during, before and after the festival in order to shape them into a cohesive network and cultural agent that is part of the festival's value.

The concept of a community proper as opposed to a 2.0 audience is well illustrated by the case of **Afropunk Fest**, whose participants are grouped together in a community who meet at the festival. It started out in 2003 as a project for a documentary on Afro-American underground culture. More than a documentary on music, it raised issues and debates on being black, so-called interracial relations, black power... In 2005, after sparking an online movement and congregation based around these ideas, it came into its own as a festival that reflected the energy and ideas that had been brewing since then and has evolved into a rich community. What we describe here could also be addressed later in the section on crowdsourcing.

The festival focuses on both music and the arts and is entirely dependent on its community[7] to curate the content more effectively (for example, a good many artists and creators belong to the community, but there is also an extensive forum like those of ten years ago where related information is shared), to recruit volunteers who help make the event possible and reduce costs (with efforts shared among more than 4,000 volunteers in various posts and with various tasks) and to grow as a cultural statement so as to enhance the festival experience, among other reasons. Afropunk is an entity that is made up of the community, the festival itself and the content it shares in the form of very carefully written weekly newsletters.

The community also votes on the groups that perform, who are presented as candidates by members of the online community. This social way of working begins on the social media sites but continues in the forum[8] and in face-to-face format, by creating networks and cultural fabric with young creators too.



Its presence on conventional social media sites (Twitter, Instagram and Facebook) is geared more to disseminating African and Afro-American art, creativity and culture – even down to the clothing worn by festival goers, which plays an important role in this cultural activism. These social media are also used to announce the festival schedules and promotions and, naturally, for advance sales of tickets. The involvement of this community is an outstanding case that deserves to be examined in greater

detail in order to study the possibility of using digital tools to achieve new participation levels and create cultural fabric.

Establishing a presence on the social media therefore entails much more than achieving visibility. The strategy and tactics used depend on the particular festival's mission, identity and goals. There is no singular or perfect formula, as social media sites are tools – platforms for structuring complex and delicate human relations in today's world.

In this regard, what we are observing is a process of maturation in the everyday practice of both users and the great majority of festivals, which have embraced these tools as major portals for communicating on the scale required by society.

The most important thing is to use these social platforms in a manner that is coherent with the festival, to act in consonance with their social nature (two-way communication, simultaneousness, a combination of synchrony and instant response and asynchrony or relative permanence of content), but also to experiment with new forms of communicating, of committing to audiences. The social media have so much more to offer than old-fashioned communication channels!

2.2. Own apps

It is very important to keep festival goers informed of the schedule, especially if it is complex or features activities held simultaneously in different rooms or venues, so that they can customise their own agenda and so that attendance of activities is optimised.

This used to be done through paper programmes, printed publications usually the size of a pocket book with several pages. A few years ago some festivals and cultural events chose to post their programmes on their websites in digital format (usually pdf files) as well, so that visitors would not have any difficulty finding the full programme several days in advance, and to save on printing (financial costs and environmental impact).

But in recent years more and more festivals have been developing mobile applications (apps) that include the full programme, related information and a few other interesting features. There is an obvious explanation for this development: whereas previously people would download and print the pdf file, following the emergence of smartphones and their rapid adoption by the lion's share of society, users started reading these pdfs directly on their phones or even downloading them during the event (sometimes the event provides QR codes or links for downloading them).

Now everything can be included in an app. Developing an app allows almost unbounded creativity and also brings organisers several benefits: it can be designed to allow users to filter activities by artist (to find those they are most interested in), by date (for example, because they intend to devote that day fully to the festival) or by style (in the case of a music festival), and to receive related recommendations (other activities, other artists...) if a mechanism based on users' choices is included in the programme. And rapid access to ticket sales is another common feature of festival apps.

Apps have another advantage for the festival's management: if an activity is called off or modified, or if another arises spontaneously and informally, the app can be updated almost in real time (it all depends on the technical characteristics of the app) so that visitors are informed before or during the festival and their positive experience is not marred as much as it would be if they discovered this for themselves.

Another recurring aspect is that an app can be connected to the user's social media accounts. For example, if someone downloads a festival's

app in preparation for attending, they can share what they are going to do at the festival on their social media profiles (for example, to find out if any of their friends and contacts are going) or can directly allow the app to discover matches of this kind.

And lastly, an increasingly essential aspect is for apps to be available from both the App Store-iTunes (for iOS, that is, Apple smartphones) and from Google Play for other devices (equipped with the Android operating system) and visible among the links displayed on the festival's website.

The use of native mobile applications is furthermore growing. According to ComScore[9], total time spent on mobile apps as channels for information and various interaction interfaces (social media, services...) surpassed the use of desktop Internet (on desktop and laptop computers) in 2014, in parallel with the use of mobile Internet platforms in general (including ordinary Internet browsing).

The **Cáceres Classical Theatre Festival**, despite not having an independent website of its own, has focused strongly on developing its own app in collaboration with the Consorcio Gran Teatro, based on the Agenda Cáceres app developed by the city's council.

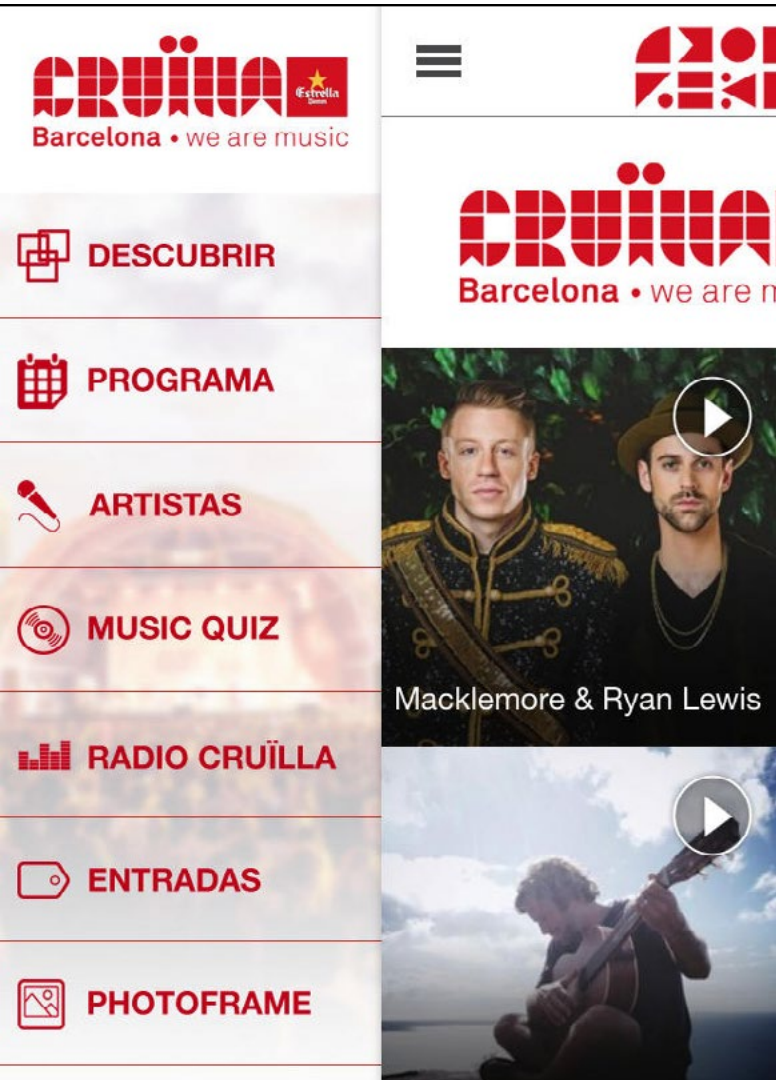
It is a simple app that is quick to load (this is an important feature, as every smartphone has different graphics and memory load capabilities). It has five sections: *Ahora* (providing real-time content while the festival is running, informing users of what is on and forthcoming activities), *Agenda* (initially displaying the days the festival runs so that users can choose what they want to explore rather than displaying the whole festival at once), *Categorías* (referring to the various sections of the festival, such as Ambientación de Calle or the official section), *Ubicaciones* (providing information about the various locations where the action takes place; when a user clicks on them they display the events scheduled for those venues during the festival, as well as linking up to Google Maps) and *Favoritos* (users can mark as favourites using a small heart-shaped button the activities they find most interesting so as not to lose sight of them)

The **International Fantastic Film Festival of Catalonia** also has its own app. Like other festivals, it releases an app for each edition (the first was in 2014) rather than updating the same one, as it should also be borne in mind that people stop using the app after the festival ends (and apps take up memory space on mobiles).

The app provides information on *Proyecciones* (screenings), which is distinguished from *Películas* (films), which can be found in another section, and on the various *Localizaciones* (locations) where these and other activities take place. When one of the three is clicked on, it is easy to go from one to another when browsing. Information on side events such as exhibitions can also be found in a separate section, *Actividades paralelas*.

It is interesting to note the possibility of purchasing tickets through another of the app's functions, as well as through the screen displaying specific activities. Users can tag activities as favourites and then use the function *Mi agenda*, which facilitates visitors' experiences. There is also a *Noticias* function where users can find news and updates, which are also posted on the festival's website throughout the course of the festival.

The **Grec Festival of Barcelona**, a performing arts event, has also had an app since the past 2015 edition. The app has a very striking visual design featuring close-ups of prominent shows. The dropdown menu includes the *Programa* (Programme) divided into the festival's various sections (Music, Circus, MiniGrec...), a display of the *Calendario* (Calendar) that also shows side activities held outside the festival throughout the year (it includes a filter to separate the activities of a particular section of the festival), information on the various spaces, *Favoritos* (Favourites) tagged by the user (as we have seen in other apps), general *Información* (Information) of interest, information on purchasing *Entradas* (Tickets) (though they can buy them instantly by clicking on a performance in the calendar and being redirected to the festival's website for online ticket sales).



The app of **Festival Cruïlla** has a similar structure to the previous ones (the function is basic but important: to keep attendees informed simply and instantly), and is notable for the use of Deezer, an online radio service that integrates it smoothly into other apps, for which the festival has compiled a playlist. Users can listen to it as if they were using any other online radio app (like Spotify or SoundCloud).

It is also interesting to explore the possibility of connecting the app to the digital wallets of payment wristbands – a type of wearable that will be examined in further detail in due course. The app can be used to access the money in the wallet for expenses during the festival. It also includes a news feed featuring updates posted to the social media where Cruïlla has an account: Twitter, Facebook and Instagram.

The homepage of the **Sónar** app features a feed of up-to-date news on all its festivals, including the insignia of Barcelona, where users can select the festival they want to browse by city. Once inside one of the cities, the structure is similar to the previous apps. This app is notable for the use of background publicity posters and images which do not hinder browsing, as the icons are clearly visible and distinct. It is also interesting to note that this app uses the Deezer service to display an online radio station as a lower screen bar, which plays samples of music performed by the artists included in the festival programme.

Mention should also be made of the app developed by the **San Sebastían International Film Festival**. Funded by Movistar (one of the official sponsors), so the organisers tell us, after an animation conveying the image of the edition, the initial screen displays the latest news about the festival and a fixed horizontal menu in the left-hand margin that redirects users to the *Portada* (Cover or homepage), more related news (by clicking on *Actualidad*), *Películas* (Films) whose first screen shows the different sections of the festival, the *Programa* (Programme), the Movistar highlights section and *Más* (More),

which features new submenus on a new screen providing access to profile and favourites, videos and images (trailers, press conferences...) and other information of interest. It is easy to browse.

Like other festival apps, it allows users to tag films as 'favourites'. When users click on each a submenu is displayed beneath the main image with a synopsis, information on the director, technical details, screenings and promotional images. It can be synchronised with website registration data for both professionals and ordinary public.

The app developed by the **Nuits Sonores** festival has an elegant menu in the same style and colours as the website. There are a total of 13 sections, some of which provide information about the programme, others on the curatorship of related content. Users can browse the sessions (separate from concert nights) and filter them by days, times and specific venues, and also view an extensive list of artists in alphabetical order.

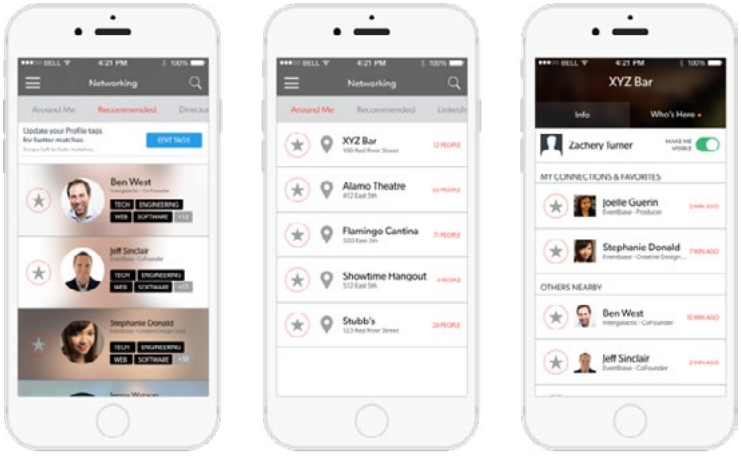
When an artist is clicked on, it is possible to view more information about them including a mini biography, the day and time they are performing, the section and the price of the show (and a button for buying a ticket through Digitick), as well as listen to some of their tracks. But, as mentioned earlier, the app is chiefly notable for the curatorship of content, which is partly automated. Once again, the organisation collaborates with Deezer. The app also features a music quiz, using the Deezer service, which presents four songs by festival artists and asks the user to choose the correct artist – in other words, a simple example of gamification designed to encourage festival fans through the app.

In the *Recommandations* (Recommendations) section, if users decide to link their app to their Facebook account (thereby granting the app access to their data), they can generate music recommendations for the festival based on the tastes they indicate on the social media site, by means of a specific programme.

Finally, the app includes sections that are directly linked to real-time feed or posts on the social media the festival uses (that is, Twitter, Facebook and Instagram), which can be especially useful during the festival as they provide additional information and communication channels that users can access if necessary without having to exit the app.

The app of **SXSW** (South by Southwest) festival, which is discussed in other sections, is designed as a tool that is more than just a constantly updated festival programme. It is perhaps one of the most complete examples examined here, though it takes up a considerable amount of memory.

The app can be linked to the ticket once it has been checked at the festival and can also be synchronised with the new social network the festival launched during the past edition. The social network has already been discussed in the previous section, but the interesting point is that it is designed to be functional during the festival when synchronised with the app.



When the festival begins, a 'Join the Conversation' option is displayed. Among other possibilities, it can notify users about people with similar interests in order to create networking dynamics. What is more, it allows

them to interact with other users of these apps, such as by sending internal messages without having to go to a social media site or email programme.

Another of its options for fostering interaction between attendees and the festival is its ability to launch surveys or votes instantly. It thus adds extra layers to visitors' experience during the festival. It also provides the festival itself with a new function as a space where people can share interests, talk and meet.

Indeed, this app is designed from the point of view of users and their experience. Unlike other apps, the programme information is in a single section of the app menu (Lineup), which displays a screen that spans various sections of the festival. As in other apps examined above, it allows users to tag their 'favourite' activities and find them in the *My favorites* section.

The menu is basically divided between *My profile* and *My favorites* followed by everything related to that particular edition of the festival (*Lineup*, *Networking/SXSocial* and *News & Info*). In short, the app provides visitors with an operations centre. Everything is synchronised with it so that everything can be found there.

Lastly, it should be pointed out that during the festival visitors can receive instant notifications if they have Bluetooth enabled, as there are beacons – small sensors that emit localised information – throughout the spaces where everything goes on. We will discuss this new technology in detail further on.

Unlike those of other music festivals (it should be remembered that SXSW features a large music section or internal festival), the app does not include music. Visitors or anyone else wishing to enjoy the music and recommendations related to SXSW can download a second app, **SXSWfm**.

This is an interesting point, because SXSW has designed the main app more as a visitor-centred tool for ensuring a smooth, fulfilling experience during the whole festival that depends on and is 'enmeshed' with the ticket and website than as a promotional tool; promotion and content curatorship are dealt with in the second app mentioned.

The app designed for the Belgian music festival **Tomorrowland** is simple but attractive and dynamic, in that it does not sport the same kind of minimalistic flat design (that is currently popular in graphic design for interfaces and websites focused on facilitating content browsing and visibility, on user experience or UX) as most do: it uses the same image as the festival's website and social media profiles, lending coherence to them all.

The homepage, which is also the menu, is very simple and has the same structure as apps designed as interactive programmes: users can browse *Artists* or *Stages*, tag those they prefer as favourites and view basic information about the festival (*Practical*) and the campsite (*Dreamville*), as well as online *Radio*. They can also connect and sync with their Facebook accounts and make the app experience more social if they wish (by sharing favourites, etc.).

In contrast, Tomorrowland's US app, **Tomorroworld**, is designed to broadcast the shows live (live streaming) using the NowLive service.

Finally, the app designed for **Coachella Festival** (Coachella Festival Valley Music and Arts Festival) is another interesting case. When you install it, it does not take you to the homepage. It begins with a configuration process that is essential to the user experience: it asks for permission to activate certain services such as Bluetooth and geolocation (GPS) so that you receive location-based messages and notifications during the festival. You can also specify which of the two weeks you will be there

so as to receive relevant notifications, connect to your account (you therefore need to register) and the payment wristband (a wearable that will be discussed in due course, a trend that festivals are increasingly adopting), synchronise with your Facebook and Twitter profiles if you wish, and configure friends (social media contacts who are also attending), including the option of being informed when they leave the festival.

Bluetooth is used to receive 'relevant' notifications from beacons (we will examine this technology in due course) in relation to the visitor's location.

Another positive feature is that the application begins by explaining the benefits of the service and allowing users to enable these options (which are in opt-out position by default), as these functions consume quite a lot of battery power and are related to data monitoring (which we will also discuss in another chapter).

Unlike other apps that redirect you to an external website for additional information (such as the Tomorrowland app for eating), here festival goers can tag their favourite artists, add a particular gig to their personal agenda (the *Coachooser*) featured in the app and even tag their favourite food stalls or attractions, and add tags to a map (where the festival marks a few places that could be of interest). It even includes information and the timetables of the shuttles that connect the various Coachella spaces.

The app has even more possibilities, all centred on enriching and facilitating the experience of a festival where a lot goes on and there are plenty of leisure options.[10] It also lets you see what your contacts and friends are going to do and view updates on the festival's social media sites.

In view of all these possibilities and options, the most important feature is that the app is structured around the eight options on the dropdown menu: *Lineup* for everything related to the schedule, *Map* for locating places instantly, *Wristband Activation* for checking the status of the payment wristband, *Shuttle*, *Eat and Drink*, and *Fun & Essentials* for leisure, hygiene or merchandise, *News & Social,* and *My Account* for configuring the account.

Apart from this app, Coachella Festival has another, Coachella Explorer, which can only be used with Google virtual reality headsets (Google Cardboard, which interestingly are DIY). We will examine this system later on in the section on Other technologies.

As can be seen, apps offer a host of possibilities, all geared to improving visitors' experiences even just before the festival. They go further than festival programmes. They enable visitors to manage and organise their experience, discover complementary activities and add information layers that would probably have taken up too much space or simply could not have been included in a printed programme.

To develop an app, however, it is necessary to have a budget for hiring designers and developers and a very clear idea of its intended use, the desired objectives and the content to be emphasised. And it should be designed from the visitor's viewpoint (What information will they need? What information will they want to access? What obstacles might they encounter before and during the festival with respect to information and how could they be overcome? Will they go alone or with someone else? What other experiences could they come away with, such as meeting people with similar tastes, and how can we help them do so?).

A slow, heavy app that does not help people find the most important information will discourage visitors from acquiring it. As the organisers of the San Sebastián International Film Festival tell us, they are aware that not all attendees download the app, but the results (including the fact that it enhances visitor experience and receives positive comments and reviews) make it worthwhile.

Not all the major events that use apps are related to music or film. Since the previous 2015 edition, the **Guadalajara International Book Fair** (FIL, Mexico) has focused on designing apps to provide information and broaden the experience of visitors of all kinds. It has a specific app that shows the whole schedule instantly, with map geolocation, and another very interesting one called **FIL Realidad Aumentada** (FIL Augmented Reality).

To offer visitors a fun experience (gamification), during the fair materials were given out in various areas, such as postcards, printed advertisements and leaflets with codes that could be viewed with the app together with content on the children's section of the fair (FIL Niños), which then redirected to its website. What is interesting is the storytelling possibilities Augmented Reality offers festivals, which deserve to be explored as a tool for providing information.

There are currently also DIY options on the Internet. One of them is the Spanish-based **Mobincube**, which allows very simple designs to be created (limited to particular needs or geared to more sophisticated ideas) for apps in both iOS (Apple mobiles and devices) and Android and WindowsPhone. It has a free option, which requires acceptance of third-party advertising, and other low-priced options without advertising.

2.3. Crowdsourcing, crowdfunding and participation

We belong to an age in which the terms audience and consumer are changing, just as the boundaries between artist and creation, or between disciplines, are shifting. The role played by technologies, if not exclusive, is at least one of catalyst, insofar as some of these changes are taking place either side of the screen, and debates have been going on for years.

While the social media allow practically anyone with Internet access to talk, give opinions and reviews, or to request information directly from an organisation or artist, it is also interesting to note that at the same time the costs of creating, producing, publishing, sharing and disseminating are decreasing.

This is giving rise to what some experts call prosumers: consumers no longer just consume but also produce, and in turn consume what other 'prosumers' create and share (content, reviews and critiques, works...). The dichotomy of consumer versus producer is being shattered and various aspects are emerging, because nowadays it is easier to be a creator, even if largely an amateur level.

In turn, the new channels for displaying content (for example YouTube or Vimeo for audiovisual) have brought about a shift in the idea of mass culture towards not one or two mass audiences but very diverse audiences, or at least – and to be more precise – they have given it visibility. Today it is easier for people to choose what content to view, when, and how fast. We are a bit like curators at a basic level, at an everyday pace. As a result, what we used to think of as passive audiences – spectators who sit and watch passively – have gradually ceased to exist. Audiences are active, eager to take part and have a little more control over the content, or at least the capacity to decide and adapt.

This gives rise to a debate on the role of cultural agents, among many other topics. Curatorship can explore new avenues, but that might well be the subject for another book (though we have already seen how curating and crowdsourcing can be combined in the case of Afropunk Fest). What is interesting is how a few festivals are gradually opening up to a variety of experiences in which the support and participation of an audience or community is essential or at least an interesting tool for allowing them to get involved and commit (the highly-prized engagement in marketing, which can aspire to be more than metrics).

One of the most widely used methods is probably crowdfunding, which we explored in connection with museums in last year's Annual Report (2015). The difference is that in the field of festivals there are a great many cases – especially festivals that are starting out, as it is seldom used by well-established festivals. Crowdfunding is a process of raising funds by enlisting the support of a large number of people. Although it can be done 'manually' (by passing round a collection bucket), platforms such as Kickstarter, Indiegogo, Verkami and Goteo have streamlined and given impetus to this alternative for raising the necessary funds for a project.

Today its use can be said to have become normalised, at least in the sense that when we speak of crowdfunding many people have a basic idea of what it means. For example, according to Verkami,[11] the average number of projects funded this way in Spain is two for every 100,000 inhabitants, and in 2014 alone more than 120,000 backers registered for 967 crowdfunded projects (not including those that did not succeed). And this is just one platform with a chiefly national (Spanish) focus.

Therefore, we will examine an example in which crowdfunding has been used differently, as fortunately the list of successfully funded festivals is almost endless, such as the first edition of **BccN Barcelona Creative Commons Festival**,[12] some editions of the **Cine Migratorio Film Festival**[13] of Santander and **XOXO: A Festival of Indie Art and Tech**,[14] for which more than 175,000 dollars were raised by 735 funders for the fourth edition.

There is no secret to crowdfunding, yet it has many in that there is no single formula for guaranteeing the success of any project. It is very important to have a previously existing network of potential collaborators and followers and possible assistants to help give it momentum during the first days of fundraising, especially the first ten, which are the most critical.

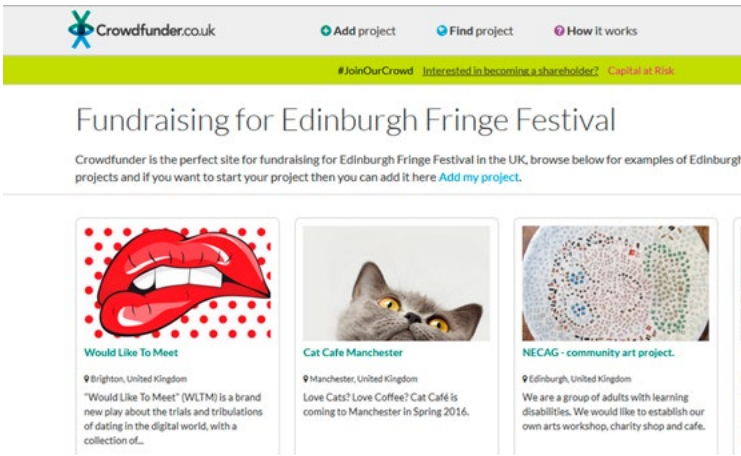
Important factors include how the networks are woven (who is connected to who and how these people help disseminate and, of course, fund the project), the attractiveness or significance of the proposal, its presentation (how it is communicated is an exponentially important factor – that is, the need to make it known to people who have never heard about the project and/or creator or team of organisers and to convince them or gain their confidence so that they give money), the communication and PR strategy and the design of rewards. The good news is that all that needs to be invested is basically a lot of time and creativity, and few resources are initially required.

Rewards are an important feature. They are the perks backers receive and are usually related to if not part of the project. For example, especially in the case of festivals, a crowdfunding campaign is usually approached as a campaign for presales of tickets and merchandise, packs or VIP passes. This is sometimes called **crowdticketing**.[15]

Crowdticketing is normally conducted via these platforms, though the festival's own website can also be used. We take crowdticketing to mean a method that involves selling a minimum number of tickets in order to fund and make possible an event. This needs to be made clear in the process, which must be transparent, in order to encourage followers to become involved. It therefore differs from advance ticket sales in that the purpose of making tickets available in advance is not for users' convenience but to make possible the event and involve users.

We will now take a look at the case of **Edinburgh Festival Fringe**, where crowdfunding is put to a different use. This festival is a huge event in which the performing arts take over the whole of the Scottish city (more than 3,000 shows were performed in 2015) and is funded through other means.

It is an out of the ordinary festival. It is shaped by the joint, collective organisation of many shows with the simultaneous involvement of many agents. However, the interesting feature is its receptiveness to proposals for shows and the participation of the companies of performers, as it provides opportunities especially to those that are just starting out. It is the artists who must take the initiative and raise funds to be able to participate. It thus has a different focus to other festivals as it is organised and structured and grows with the hundreds and thousands of people who take part, whereas the organisation simply deals with the management and coordination side.



Companies and artists interested in participating (all budgets are limited, and this is especially true of such a colossal event) are granted a space on a crowdfunding platform exclusively for artists wishing to take part in the festival, **Crowdfunder.co.uk**.[16] In other words, audiences fund the expenses of the companies they wish to see together with the company's followers who want them to achieve their goal.

It might therefore be said that the festival carries out crowdfunding per show, and that this is an indirect way of partially gauging people's interest (though it is not, and never should be, the only way) and of allowing the audience as backers to choose what content they want to see.

But not all of the audience's decisions can be made through funding if our aim is for them to take part to some degree. It is possible to experiment with a variety of levels

of participation and tools, also depending on our goals and approach to the festival. Crowdsourcing is taken to mean a cluster of practices in which a 'crowd' generally not belonging to the organisation and not necessarily experts take over small tasks, such as coming up with ideas, and minor collaborations in the case at hand (outsourcing), generally distributed among the whole crowd of participants.

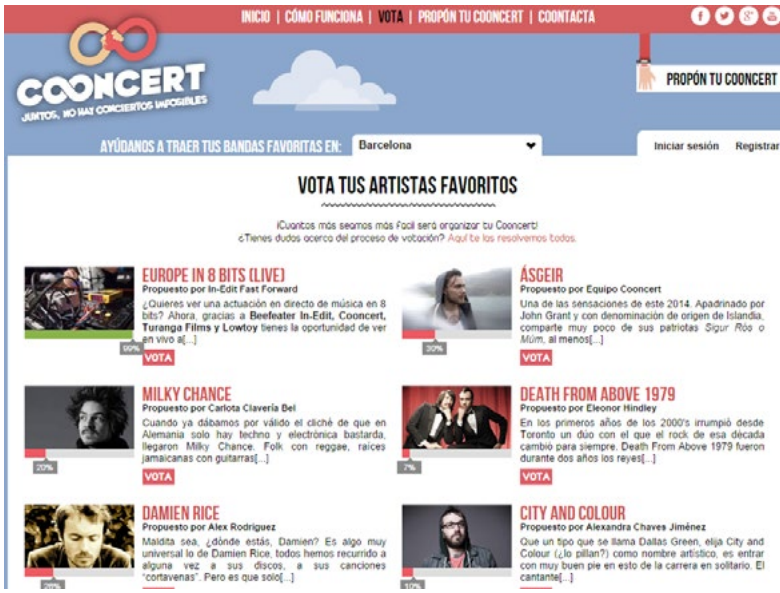
Indeed, crowdsourcing and participation can be viewed as processes that give impetus to audience relations and involvement, allow data to be gleaned on what they want in order to attempt to improve the project by tailoring it more to their demands and, ultimately, if such a focus is chosen, generate a common cultural event in which the boundaries between organisation and target audience are more blurred (the audience practically becomes a community), thereby enhancing the social and cultural impact of the event.

In the past four years the **San Sebastián International Film Festival** has been experimenting with audience participation in a particular task: choosing the poster for the upcoming edition. This is done exclusively online, by creating a website specifically for this purpose.

During the initial phase, any individual or agency can propose a design. The organisers tell us that they received some 1,700 proposals from all over the world for the 2015 edition. During the second phase, the designs are voted on; anyone who registers (free of charge, naturally) can take part. There are also buttons for sharing the options on the social media and accordingly for supporting favourites. More than 70,000 votes were registered for that edition.

In its past two editions the **Grec** performing arts festival, together with the Cooncert platform, experimented with the possibility of allowing attendees to choose some of the bands in the line-up. The message was: 'You make Grec, choose your concert.'

It is interesting to learn a bit more about what Cooncert does.[17] It is both a platform and a promotor that is based on the possibility of giving a say to fans interested in getting to see a band or artist perform in their city. Anyone can submit a proposal for an artist to give a concert in their city (for example, when the singer is starting a tour but their city is not included), and other people who see it can also vote for it. They will see it because the person who submits the proposal shares it on the social media, and also if they perform a search.



If an artist secures a sufficient critical mass of votes, the platform will analyse the feasibility (the resources and minimum budget required) of including this artist in the line-up and will put the proposal to various venues until it is successful. In this respect it is a genuine crowdsourcing process in which the curating is performed by, and subjected to, a crowd.

Returning to Grec, for one of the concerts the organisers subjected the process to the same phases Cooncert proposes for all its concerts: people propose options, this phase ends after a month and the proposals are then voted on during another month until the one with the most votes is chosen. For 2014[18] the artist with the most votes, who accordingly performed at Grec, was Ólafur Arnalds, and for the 2015 edition,[19] by which time the festival had fully

embraced the initiative, two artists were chosen to give concerts: Argentine Lisandro Aristimuño and Norwegian Ane Brun.

In 2013 the **International Fantastic Film Festival of Catalonia** started up an interesting participatory competition that was also geared to the possibilities of mobile devices with cameras (nowadays nearly all of us have smartphones with not one but two cameras, front and rear).

The competition is called **Phonetastic Mobile Film Festival**.[20] Anyone interested can take part provided they comply with a number of requisites. Films must: be shot using a mobile device with a camera (smartphone, tablet); belong to the fantasy genre (fantasy, horror, martial arts, mystery and suspense or science-fiction); be in English or have English subtitles; and last no longer than 15 minutes.

The voting process is also participatory in that anyone who wishes to can vote for their favourite short film provided they are registered on the website (once again, it is free to register as a user). The film with the most votes receives one of the two prizes (the other winner is chosen by an international panel).

What is interesting is that the organisation may consider entering the short films submitted to this section for other official sections of the Catalan film festival, even subsequently for the Oscars if appropriate. So, bearing in mind that the medium on which the competition is based is highly accessible, the competition is open to participation on two levels: for both submitting and selecting works. And the festival is confident of the results.

Another prominent example that involves voting is the animated short film festival **Subtravelling Festival** promoted by TMB (Transports Metropolitans de Barcelona). This festival, which held its sixth edition in 2015, proposes two phases of participation: one lasting nearly a month, during which anyone can film freely on Barcelona's public transport network (underground and buses) a short lasting a maximum of three minutes and, as in the case of Phonetastic, using mobile devices only. The technical requisites for taking part are that applicants must previously post their videos on YouTube and share the URL when filling in the participation form. A lot of the participants are young people – an interesting fact which shows that the competition encourages this age group to be creative with audiovisual language.

During the second phase, which lasts two weeks, people vote on the films in the two sections of the festival: the candidate shorts (in the *Rueda en TMB* section) and those in the *Microcortos Internacionales* (International micro-shorts) section, which features about 20 that are previously shortlisted by a panel and even include animated films.

These shorts are also projected on the screens inside the carriages of the city's underground trains and in some of its buses. The whole festival therefore takes place online and on screens, except for the closing and award ceremony.

In the sense that audience and creator can be interchangeable, the already mentioned **#TwitterFiction Festival** is designed on the basis of the communicative nature of tweets: as well as short, they can be issued by anyone with a profile on this social networking site, and are ubiquitous and redistributable. As commented earlier, this festival invited a few famous writers to take part with conversations and, especially, live written stories. Some of these stories were not only retweeted and read, but could be continued in different versions by any user, as well as begun, under the hashtag (interactive label) #TwitterFiction.

Moreover, to encourage people to beat blank page syndrome (writer's block, when you don't know how to begin), the organisers created a

small tool for generating a random sentence or tweet from popular terms used on the network to help collective creation get off to a start.[21] In other words, the festival is designed *on the basis of* more than *with* everyone's participation. It is spread through retweets (tweets or messages that are shared and reposted on the same site) and above all by generating new related content.

Another approach to a festival is that of **Porchfest** (which started out in the New York area and later spread to Oakhurst, a suburb of the city of Atlanta, in the US). It is an original idea that is owned and operated by the local community: a music festival without stages in the traditional sense, as musicians perform in the porches of the typical homes in the area. According to one of the organisers, the aim is to bring the community together[22] rather than attract loads of people from other places.

To achieve this, the website[23] has various buttons with links to different forms to be filled out by residents who want to offer their porch as a stage, music groups interested in performing, or volunteers willing to help out. And as is to be expected, anyone can attend free of charge. Last year's edition (2015, which lasted a day) featured as many as 130 different performances.

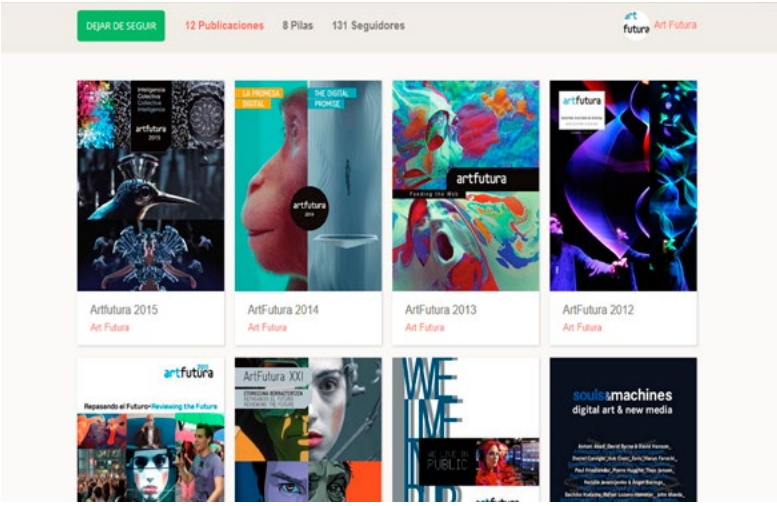
Therefore, there are many ways of enriching a festival and of helping and encouraging the audience to take part as opposed to inhibiting and concealing it. There are many social and cultural benefits (the cost could also be assessed, but as we have seen these tools are generally free or low cost). In view of the abovementioned shift towards a concept of an audience that resembles a community, and of the festival as a meeting place for exchanging and showcasing ideas, it could be in our interests to implement an appropriate strategy.

2.4. Online content (digitisation) and use of streaming

Digitisation processes are being fully embraced by many cultural organisations and institutions, though the needs of each specific sector and case are different and therefore so are the types of digitisation employed. The 2015 AC/E Annual Report discussed content digitisation as an increasingly necessary process in museums in order to bring these institutions' content closer to local and global audiences and broaden its cultural and social impact.

Digitisation is equally important to festivals, but in a different way. Because, as we have seen since the beginning of the report, festivals are based not only on showcasing content (dance, music, ideas...) but also on creating experiences (sensory, intellectual...) and providing a meeting place. Their ephemeral and seasonal nature (they run for a very short period during a particular time of year/month) requires a different approach to digitisation.

We thus find that some visual arts festivals such as **Artfutura**, a digital art and creativity festival, have been publishing and sharing their catalogues[24] in English and Spanish openly and freely (philosophy of open culture) for a considerable number of years.



This festival shares its catalogue through **Issuu**,[25] which functions as a platform for viewing,

downloading and sharing documents and electronic books online in a curated (it enables collections to be created from a profile) and socialised manner (it also functions as a social networking shortcut, linking up with Facebook, Twitter, Google+ and other accounts to share documents on those channels). Another distinctive feature that explains this platform's success is that it allows anyone to embed the digital document on their website with a very elegant interactive display and without losing sight of the authorship.

The **transmediale** festival is also interested in digitising its content, especially that of earlier editions. Indeed, between 2011 and 2013 it was part of the **DCA** (Digitising Contemporary Art) project run by **Europeana** (co-funded by the European Union). The aim of this European project was to boost the presence of contemporary art in the Europeana online database providing information on European cultural heritage to any user.

Basically, the *transmediale/archive*[26] section of the festival's website gathers information on past editions (up to 1988), freely accessible images (in *photos*) and video footage of events, lectures and roundtables of past editions (up to 2009), and publications (in *publications*) such as *transmediale/magazine,* shared on Issuu, which has practically been a catalogue since the 2013 edition. The idea of *transmediale/magazine* is to give a new twist to this type of publications brought out by festivals and major art events as well as exhibitions, making them more open.

The festival also shares, in freely downloadable pdfs, a few papers and other scholarly publications arising from more recent editions of projects organised by the festival itself or in which it has collaborated, such as *Grexit*. However, the catalogues of pre-2013 editions are neither digitised nor freely shared.

We have already mentioned the **Subtravelling Festival** and its multi-screen as opposed to in-person nature (it takes place on screens on the TMB Barcelona public transport network and online on its website), but an even more interesting case is the **Tribeca Film Festival** and its online section.

Festivals and cultural events, as we saw at the beginning of the Focus, are exploring the use of digital platforms as a new space into which to expand, and also as a new production material or dissemination channel.

The **Tribeca Online Festival** describes itself as one that sets out to provide a thought-provoking programme 'for a contemporary audience that lives online'. This section of the film festival has a programme of feature-length and short films that deal particularly with social and cultural relations with technology. For example, last year the section asked 'Does technology rule, or does it just rule us?'

This section can only be viewed online during the festival by registered users (access is therefore free). The shorts are withdrawn after the festival ends. While the section is running, users can vote for their favourite shorts[27] and the Best Online Awards ceremony takes place after the event. Content is thus digitised not in order to be subsequently disseminated but as part of the festival's approach aimed at responding to current changes.

In conjunction with the Tribeca Online Festival, in 2014 the organisers also launched **Tribeca N.O.W.** (New Online Work), a parallel non-competition online programme designed to draw attention to and celebrate creative work for exclusively online digital formats that do not necessary fall into a well-defined category (short films, web series, part of a broader online content...). This is why they place the selection under such a broad umbrella.

Unlike in the Tribeca Online section, the work selected can continue to be viewed, free of charge, after the festival ends. Videos are

embedded on the website from their creators' Vimeo accounts or from their websites; once they are embedded on the N.O.W. website, other work by the same creator is displayed beneath the selected piece.

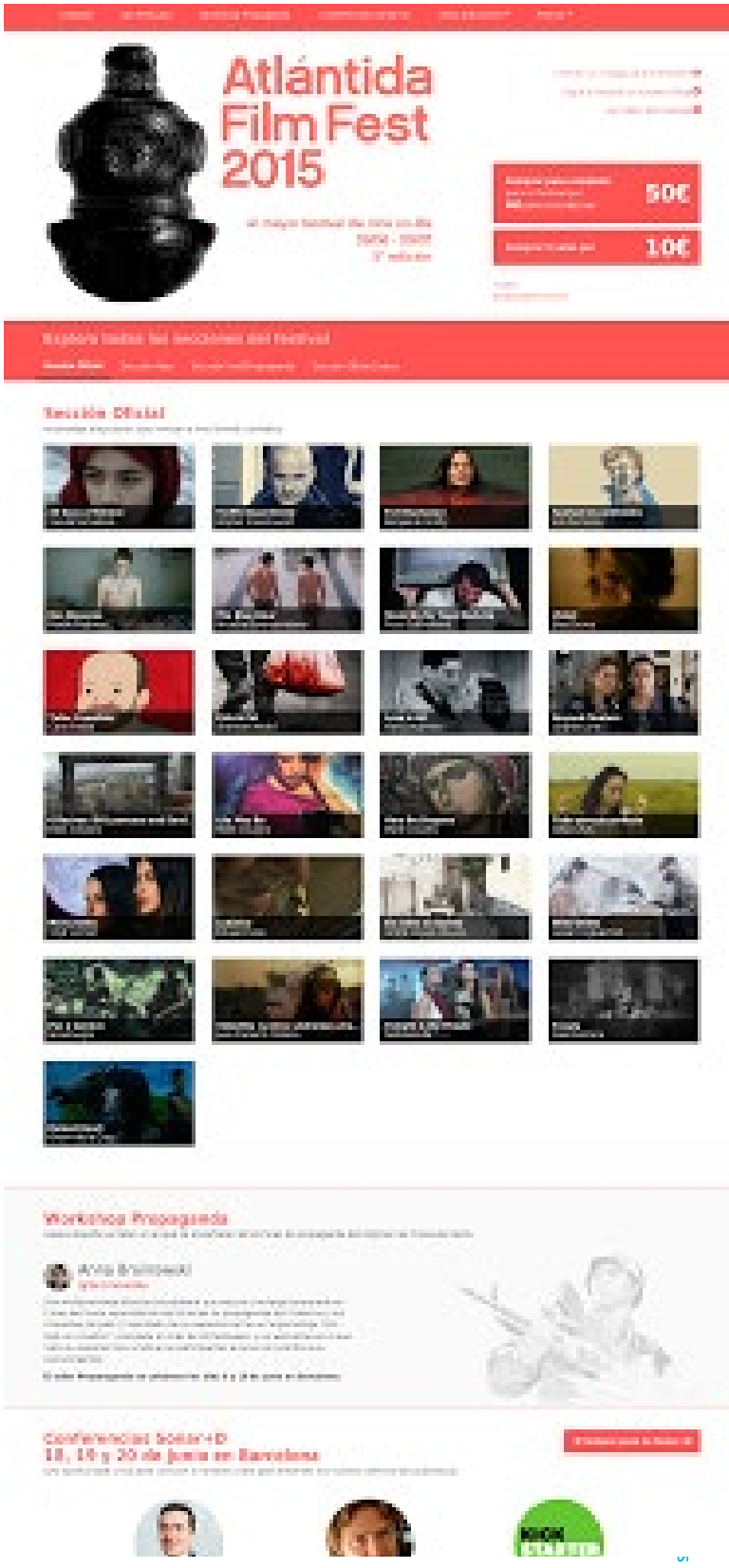
Tribeca festival has been experimenting for several years with various formats for streaming the films entered for the festival as well as with promoting small side events. The organisers have operated and collaborated with iTunes, Amazon,[28] Netflix, VUDU, Xbox (Microsoft), and Google (Google Play and YouTube), among others.

For example, in the case of iTunes and Apple, they scheduled a series of talks between directors and actors during the festival in the city of New York to comment on the films. These talks were recorded and are now available exclusively on iTunes in audio format or as podcasts.[29] The festival also posts and shares trailers, public interviews with directors and other types of events on its YouTube channel, though they are only available to US residents.

An important example that should not be omitted is a film festival that takes place online only: **Atlántida Film Fest.** This initiative was launched in 2011 by **Filmin**, an online audiovisual content platform that for a few years now has been consolidating the distribution and direct exhibition of quality pay-per-view audiovisual content from Spain.[30]

The festival programme is divided into three sections (Official, Atlas and shorts). During approximately one month, between June and July, a host of films are shown which explore new approaches to the audiovisual arts. In addition, it provides an opportunity to see Spanish and Latin American works that are rarely accessible on other channels. Viewing is restricted to Spain using IP-based geoblocking.

Instead of being screened at various times, films are available throughout the online festival



so that online attendees can watch them in streaming format during the festival (films should not be downloaded to a computer but viewed in the same way as a YouTube video).

The organisers tell us that once the user selects the film they want to see, they can only access it in the next 72 hours, as many times as they wish, as if they had rented it. Its online nature makes it one of the film festivals with the greatest capacity for distribution and scope in the country.

In the 2015 edition only two off-screen actions were scheduled to coincide with the Day section of the Sónar festival in Barcelona, where the Filmin platform is based.

The organisers are familiar with online exhibition mechanisms and attach great importance to having a responsive website adaptable to all kinds of screens (even for smart TVs) that is easy for users to browse and find information on. Clarity, speed and a good structure are one of the festival's maxims.

On the website spectators can find synopses, directors' biographies and technical specifications of films, as well as summaries of the critiques published in the written media. And, as we see in other festival sections, it allows spectators to vote for the winner of the subsequently awarded audience prize, as well as to post critiques and comments that they can subsequently share on their Facebook or Twitter profiles.

According to the festival, these two types of participation are very popular and improve spectators' experience. This is important to the organisers, as, unlike at traditional festivals, attendees do not have a physical space in which to interact – that is, it is important to create dynamics aimed at fostering user synergies and participation.

Another aspect in which they believe that the experience of viewing films has improved is adaptation to a broader spectrum of devices in the latest edition. The organisers commented that 'it's not the same to view a film on the computer as it is on a TV', meaning that the screen format actually alters people's perception of the content.

At the present time, when it is increasingly common for people to consume audiovisual content on the Internet, even pay-as-you-view,[31] it seems essential to embrace these new ways of viewing, perceiving and enjoying films or even of readapting them to different screens.

The **Huesca International Film Festival** has also experimented with broadcasting films and making them available temporarily to paying viewers for a small price. The **Festhome**[32] platform is an online film distributor that works with the new methods of distributing cultural content broadcast directly over the Internet. This means that for a small monthly subscription, or in exchange for viewing advertisements, users can watch films on the platform's own streaming channel, Indiehome TV.

Festhome offers festivals intermediary services but can also host them online, with web analysis and channel design services included. According to this platform, nearly 1,300 festivals from 89 countries all over the world work with them.

As stated, Huesca festival enlisted its services for the first time in 2015, with satisfactory results, under the **FestivalHuesca en Casa** programme.[33] The shorts in the competition section – a total of 12 were selected – were available on the Festhome channel throughout the duration of the festival and for a further ten days.

The proceeds from pay-per-view, which are very small according to the website, were divided equally between the owners of the film rights, the festival and the service provider (Festhome).

According to the festival, this service has succeeded in helping creators reach new audiences. During this edition, in which they experimented with the online section, 162 users paid for more than 500 viewings (it is interesting to note that, roughly speaking, many of the users

viewed at least half of the short films submitted to the competition).

A very useful tool for promoting an event and making content available to audiences unable to attend in person is live streaming, or broadcasting live online. There are many affordable ways of developing this type of communication, ranging from the Google Hangouts live streaming service to paid services that can broadcast with greater definition and video quality.

A fact that needs to be borne in mind is that in any live broadcast part of the image and sound quality is always lost, even with the best and most stable Internet connection (which is also important, whenever possible). This is partly because the broadcasting process can reduce quality, and also because the receptors' (viewers') connection may not be ideal. Therefore, it is advisable to provide the highest possible quality so that the audience on the other side of the screen receives it as clearly as possible.

Ways of broadcasting range from a webcam to a professional camera connected to a computer, though it is recommendable to always use HD cameras and avoid webcams and those of low quality in general. Above all, avoid using cameras installed in laptops, tablets or mobile phones.

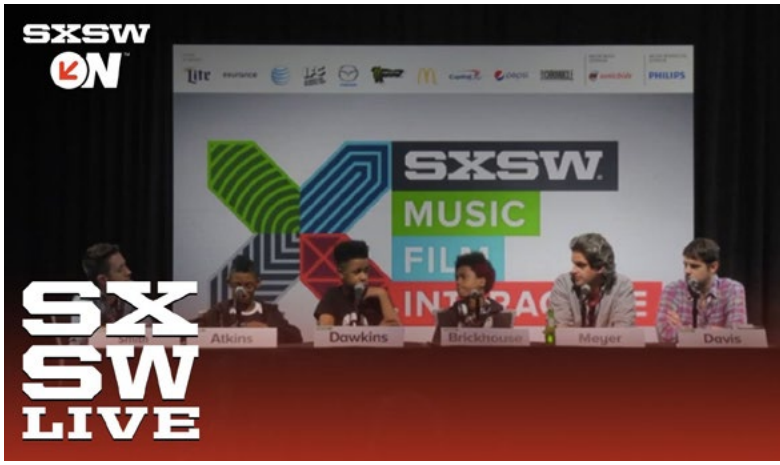
Sound is also a particular concern when streaming any event, be it a concert or a conference. Many cameras have on-board microphones, but these often record a poor quality of sound or are simply too far from the camera to record it well. Therefore, the best solution is to connect an external microphone to the audio port (or install a few if you want to broadcast a live show) or use pre-recorded audio (for example, for a dance or performance).

What is more, while broadcasting live you can also record at the same time for subsequent documentation. Many services, from Google Hangout to Periscope, allow this, though the resolution may turn out slightly lower.

Another interesting, less technical aspect of the concept of live streaming is why festivals go in for it. Each festival can have its specific reasons related to its strategies and mission, but the most usual ones are: to make the festival known (promotional), as attending in person can never take the place of broadcasting and does not pose a risk to ticket sales (we will see that some music festivals take this approach); or to broaden the festival's mission and allow content to be freely disseminated, especially lectures and roundtables...

These experiences have already caught on in a considerable number of cultural environments, especially for debates which are, by nature, open. But now, as we shall see, festivals are also latching onto its virtues.

The **SXSW** festival has been streaming its conferences, roundtables and gigs live since 2009. For this purpose it has a specific page on its website (SXSW Live)[34] where the original videos are embedded along with interviews with directors, artists and creators conducted outside the festival since March 2015. It also offers year-round programming of online content (SXSW On). Content is also shared on the festival's YouTube channel. Some videos are viewed thousands of times, especially film premieres.



Another festival that makes use of live streaming is **transmediale**, which takes the same approach of subsequently sharing footage on its own YouTube channel as part of its content strategy.[35]

It only broadcasts papers, presentations of artistic or creative projects, roundtables and a few very specific performances.

It is no secret nowadays that live streaming is something that many Internet users have come to expect and value. If we note, for example, how many people disseminate streaming while the event is running, encouraged by the themes and guests, for example on Twitter (with and without the hashtag #transmediale[36]), and even the reactions they post, we can gain an idea of how it can be an excellent dissemination tool for many tasks.

Without the social media it is meaningless. That is why some streaming platforms include a live chat window beside the video frame. In this case transmediale is aware that streaming is one of its strong points not only with respect to communication but also in creating value and sparking debates (or for that particular moment in the round of questions). The community manager is attentive during live streaming and can also answer users' technical queries instantly.

In other words, through this combination of live streaming and social media, people enjoying the content at home or at work can create more noise than a campaign. But the important point is that streaming can also be viewed as a way of taking ideas further.

Streaming is therefore most commonly used to spread ideas through conferences, but it can also be applied to other formats. For example, the **Tomorrowworld** festival (the spinoff of Tomorrowland in the US) streams[37] the main concerts from its own website,[38] as well as from the specific app **Tomorrowworld Live**[39] designed by LiveMedia, which supports live streaming technology (NowLive). The website version is not mobile technology-friendly (it is not responsive), and the organisers therefore recommend this app for mobile devices.

Although the NowLive service makes it possible to broadcast pay-per-view videos live, the festival makes a selection of certain concerts that are free to view during a time slot (for example, in the 2015 edition it was from 7pm to 1am, US East-coast time: that is, when people are usually at home). So they do not broadcast all concerts.

This means that at a festival where some concerts are held simultaneously, a selection needs to be made within this time slot, and that for some of these concerts only a fragment is offered (in some cases the last quarter of an hour, in others half an hour...) totally free of charge, though this is no substitute for attending the festival in person.

Lastly, a very interesting tool that is an exception to the rule of not using low-performing cameras is the live streaming service **Periscope**. Periscope is an application for mobile devices that is connected directly to Twitter (the current owner of this streaming service) and offers two additional interesting functions, among others: a chat box (which can be blocked if wished), which is ideal for proposing questions and even chatting to other users instantly, and the fact it is linked to Twitter.

This has various implications: the design of Periscope is familiar to users of the platform with the blue bird, in that users have a profile that can also be followed in the same way by clicking on a button, and they are informed through a mobile message stating that the

profile they are following is broadcasting live (just as when there is a new tweet).

At the same time, it also sends a tweet to the linked account providing information: 'LIVE on #Periscope'. It likewise allows spectators to share on the same social media site a tweet with the streaming link (which, interestingly, can be seen in web format, though it can only be reposted using the mobile app).

The search engine in the form of a map is an interesting function for allowing people to find the user. When platform users and profiles broadcast live, a pointer appears by the city on the map and disappears when they stop.

Although it is a young platform (it has only been around for about a year), it is catching on fast among households and individuals (people who broadcast gatherings with friends at their homes, for example) and is also being used by organisations and institutions of all kinds to broadcast conferences, debates, presentations, concerts... Even the Spanish police force has begun employing this new tool.

The cultural institutions that are experimenting the most with this tool are museums and galleries, such as the Musée Dapper in Paris, but one festival stands out particularly: the **San Sebastián International Film Festival**, which used it to promote the most recent 2015 edition. The organisers used this service to broadcast, for example, red carpet arrivals, photocalls, presentations and press conferences.

The organisers tell us that they find this app very interesting, as it has significant potential despite requiring very little infrastructure and few resources and is becoming widely accepted by followers. It can therefore provide a range of options for promotional and other purposes, depending on needs, for a very low budget.

In this section we have thus seen mechanisms for disseminating and extending a festival's mission and objectives beyond geographical boundaries and time limits, and for spreading the notion of culture as something that is freer.

2.5. Beacons

The **Internet of Things** (IoT) is one of the latest revolutions of the current digital age both in communications and in technology in general. IoT refers to a new horizon in which different types of objects are connected to the Internet for various purposes and uses.

In general, these objects are designed with the necessary built-in technology, such as the latest generation of smart refrigerators and washing machines or electricity metres. But there are also ways of making objects connective – or at least of transforming them into supports for sensors. The most popular cases are found in today's sensorised, high-tech or smart cities as they are most widely known. For example, some of these cities (such as Barcelona) use sensors to detect when skips for rubbish and recyclable waste are full. This information is gathered and analysed at a data centre and passed on to the refuse collection services to make them faster and more efficient.

In contrast, beacons[40] are very small transmitters designed to provide specific information, news or warnings on something that is occurring in the area to mobile devices entering their range. They do so by detecting Bluetooth-enabled

smartphones and other mobile devices in the area on a specific wavelength. This wavelength is determined by an app that needs to have been previously installed in the device. In other words, it is the smartphone installed with the app that detects the beacon and gives it permission to send information.

Beacons do not store or gather data on mobiles; at the most, they can measure the number of interactions with mobile devices (as in the case of the **Estimote**) and how long they remain within the range, but in principle they do not gather data that could be used to identify someone.

In addition, applications that allow communication with beacons are designed in 'opt-in' mode. This means that anyone who installs the app must grant permission for it to receive transmissions from beacons, usually by means of a yes-no or in-out (on-off) button that is disabled by default. Apple **iBeacons** have the same protocol, which includes informing users that the app is used to obtain data or send notifications. Taking care of people's privacy is more important than ever, and keeping them informed about beacons is part of this care.[41]

When analysing some of the apps examined above, we saw how, when the app is first used, a series of commands appears on the screen for updating and configuring it, including in relation to beacons, as with the Coachella Festival app. This can be disabled at any time. It is an interesting feature as it allows the user, for example, to minimise battery consumption, as Bluetooth communication (even having it enabled) causes extra consumption, even if it is designed to be minimal.

As pointed out, festivals are gradually learning to make the most of this new feature. **Cannes Lions International Festival** (the festival of advertising and creativity in communication) was among the first to use this technology in 2014.[42] Beacons deployed in strategic areas, such as meeting points or near the screening theatres, performed three functions at the festival through the apps. Because, as stated previously, in order for beacons to carry out their functions, a mobile application for communicating with them is required.

First of all, they allowed the festival to provide real-time information on the schedule, on any sudden changes, and on events happening in the area where users carrying smartphones installed with the app were located, in the form of notifications. In addition, the app automatically tagged an area as a favourite if it detected that the user spent more time walking around it.[43]

And lastly, the app's software could connect all the people located in an area. Anyone with the *Around Me Enhanced* option enabled would receive a list of people attending the event, for example, and by enabling another option called *Icebreaker*, previously linked to the user's LinkedIn account, it could detect any shared contacts attending the same event at the same time. Beacons were thus used to inform people of changes and to boost interaction and contact between attendees (though we are talking about a festival with a strong focus on sector professionals).

Bonnaroo Music Festival began using beacons also in 2014. The organisers installed more than 100 all over the festival, in bushes or in corners where they would not attract much attention, and especially at entrances and exits to the festival grounds and areas. By means of the app, they provided information about the upcoming concert or, for example, small reminders of where the nearest drinking fountains were and the importance of staying hydrated at such a hot time of year.

The company in charge of implementing this new technology shared data gathered on that first year.[44] One of the uses given to beacons to improve the festival management instantly (or in real time, if preferred) and, accordingly, festival

goers' experience, was to count the people in specific areas that needed to be monitored, such as the concert areas or VIP zone. The aim this first year was to experiment with this new tool for festivals that attract a large number of attendees.[45]

They also analysed the amount of notifications the apps received, the number of attendees who had installed the app, the average distance users travelled and how many used the beacons option (around 20% the first year). By collecting this information they hope to be able to implement better strategies for future editions and improve festival goers' experience.

One of the immediate advantages was not having to send all attendees with the app installed on their devices messages and notifications on all the events that were occurring; instead, they informed them only about events in the area they were in and provided they had chosen to receive notifications of this kind. This means that users can control what they receive, limiting it to the most relevant information, and that organisers do not need to collect personal data or emails, for example.

Returning to **Coachella Festival,** it has been using this new technology for the past two editions (once again, since 2014).[46] By installing beacons by area (for example, in the concert zones), the organisers were able to transmit relevant information (on upcoming performances, delays, etc.) to everyone within their range who had enabled this option of the app.

This function performed by beacons at festivals to improve user experience is basic but quite useful. However, at this particular festival the organisers went slightly further, allowing the map displayed by the app to have 'a life of its own'.

It geolocated users in real time and, with no need for GPS, informed them of what was going on in other places on the map or of which areas were most crowded at that particular moment. This feature is very useful, for example, for managing key aspects such as portable toilets, so that people with urgent needs have faster access, and also for the festival as it can help avoid overcrowding.

What is more, the festival endeavoured to create slightly more gamified experiences by providing 'secrets' such as surprise gigs to be discovered or unreleased content for TV viewing such as backstage interviews.[47]

The **SXSW** festival, as pointed out in connection with its app, has also been a pioneer in the use of beacons since 2014. That year it used one of the largest numbers of beacons employed so far – more than 1,000 in all areas (it is a very large festival in terms of both attendees and grounds) – and two types: some very small and simple and easy to hang in areas that need a high density of emitters (spaces where more people tend to congregate, for example), and a larger type in airtight casing for areas likely to come into contact with water or in large, open spaces. They also prefer to deploy them in places where their visibility is low.[48]

SXSW's use of beacons is very similar to that of the festivals mentioned above: they provide festival goers who enable the option of communicating with these devices with information and notifications about the scheduled events, changes in them or events

that can arise spontaneously, and can help bring them into contact with new people with similar tastes.

If users have enabled Bluetooth, communication with beacons and the *Networking* option as well as specifying their interests and tastes together with their professional profile, the combination of beacons and app can put people in touch with other users with similar tastes who are located in the same room or area and can help introduce them to each other through a notification. This type of geolocation does not rely at all on GPS.

There is also an option for interacting with the audience at presentations or roundtables, for example.[49] When someone enters an area where an activity is going on, they receive a request to *Join the Conversation*. This option, as well as enabling the function commented on above, allows the user to access a small real-time forum for discussion (digital, through the app) or to take part in any surveys or votes.

The interesting point here is that the developers of the technical strategy and beacon placement design are also the developers of the app – a key factor that ensures that the app and the beacons can function correctly, in harmony.

Lastly, **Tribeca Film Festival** is another of the pioneering festivals in the installation of beacons.[50] Their app was simpler, in that it was merely used to provide real-time information about upcoming activities in the particular area where festival goers who had enabled the option were located. These geolocated notifications generated by beacons disappeared when the person moved out of their range.

Given the nature of the Tribeca film festival, one of whose main activities is screening films, the organisers ensured that the strategy of notifications issued by beacons was not invasive. The beacons in the theatres were automatically deactivated when screening began and reactivated after it ended, between film screenings.

What the festivals that have made use of beacons so far have in common (as stated earlier, there are not many cases as beacons are so new) is their large size, especially in terms of attendees, who number more than 50,000. SXSW had in the region of 75,000 visitors in 2015, nearly 200,000 people attended Coachella Festival and more than 138,000 (evidently not including the users who enjoyed only the online activities) attended the screenings, presentations and lectures offered by Tribeca festival.

When dealing with such very large numbers of people and a whole host of activities that often take place simultaneously, real-time management is an absolute necessity. In these cases beacons can be sources of information that enable the organisation to make instant decisions and carry out automated, geolocated and significant management tasks centred on the festival goer.

These beacons can no doubt be applied to comparatively smaller festivals, for example in areas where actors and people tend to congregate. Indeed, their price, which is progressively decreasing, and the fact they are relatively easy to install could allow them to be used in very different types of contexts regardless of the festival's size.

2.6. Wearables and payment wristbands

Wearables are a technology which, although based on a simple concept, is undoubtedly here to stay for quite some time at least and will broaden or bring new possibilities of performing certain tasks.

Wearables are basically devices that users actually wear as opposed to having to hold them (as with mobiles). They mostly take the form of 'analogue wearables' such as wristwatches or decorative wristbands, glasses, clothing... They can have many types of functions, some highly specific.

Perhaps those that are most familiar today are the so-called smartwatches, which can perform many functions or, at the least, connect to the user's smartphone (they can send SMS, allow you to see and answer calls, view the time, view inbox notifications...). Others perform more specific and exclusive functions such as measuring and quantifying our physical exercise or heartbeat and heartrate.

In the field of festivals, wearables are proving to be useful tools for improving attendees' experience and for managing various aspects at particularly critical times, such as selling drinks during a crowded concert or validating tickets. In other words, wearables are gaining ground at festivals, where they facilitate processes rather than create new sensory experiences or provide information.

The prevalent technological system at many music festivals is RFID (Radio Frequency Identification) wristbands. RFID technology usually consists of small devices used to store and read data (normally an identity) through wireless transmission. Many everyday objects already incorporate this technology, such as bank cards or electronic ID cards (the golden chip). It is commonly employed in warehouses for inventory management, for example, but has very many other applications.

The wristbands that are catching on in Spain are the payment type, in accordance with the concept of 'cashless'. They are based on the idea of creating a means of speeding up the payment processes that can be required at a festival, especially the music type, for example for purchasing merchandise, drinks and cold snacks.

This technological concept is part of a trend known as Virtual or Digital Wallet.[51] It involves electronic or digital processes and systems that make it possible for all kinds of products to be paid for online. They can range from payment platforms such as PayPal to the use of mobiles for payment using contactless technologies or NFC (Near Field Communication, the category RFID comes under).

This payment and transaction method requires three elements, which are listed below to help readers understand the wristbands cited here as examples: a designed system or electronic or digital infrastructure, a programme or software, and specific devices (in this case the wristbands). One of the first festivals to go in for this system was the **Low Festival** (Benidorm indie music) in 2014, for which it was awarded a FEST prize in the *Most technological festival* category in 2014 and again in 2015.[52]

The online payment system PayPal was the first to test it at a real event and chose this festival,[53] but exclusively for the VIP zones (involving some 3,500 people in all). In the experiment festival goers with access to these areas did not need to carry credit cards or cash (in other words, there was no need for them to take a wallet/purse

along and get it out to pay for every drink they consumed).[54]

People wearing these wristbands had to connect them to their PayPal accounts and 'pre-load' them with the desired amount (for example, 20, 50, 100 euros...). Every time they wished to pay for a meal, for example, all they had to do was swipe their wristband over a terminal equipped with a RFID reader and specific software called PlayPass (by Paypal), and the transaction would be charged to the wristband account as if it were a real wallet.[55]

Another interesting function of the PayPal system is the possibility of topping up: when the user's cash fell to five euros, the band was automatically loaded to the initial amount (for this purpose PayPal must be linked to a bank account or card).[56]

During this edition the organisers hoped to glean information on whether this first trial actually improved users' experience, including security aspects, and the management of crowds of people queuing to pay in bars or merchandise shops (also speeding up the payment process for vendors). In a survey conducted on the first festival goers who took part in the experiment with the wristband, 85% said they preferred this system[57] to other more traditional methods.

For the 2015 edition, following its success as a tool for improving and facilitating the experience of VIP attendees, the wristband was used to authorise access to the whole festival (instead of the classic fabric or plastic wristband) and was given to all festival goers regardless of their type of ticket to use in all areas, as well as to share Facebook photographs and updates.[58]

Money could be loaded directly from the website, with the option of doing so via PayPal. On arriving at the festival, visitors were given a smart RFID wristband in exchange for their ticket.

Since 2015 more Spanish-based festivals have adopted wristbands of this kind, especially for payments. One of them is **Sónar Festival** (Barcelona). The organisers decided that for the recent 2015 edition all in-festival payments would be in 'cashless' mode[59] (that is, without cash or cards) using the wristband. At this edition of the festival the wristband was used solely for payments, not to gain access to the various spaces or to the festival itself.[60]

For this purpose they set up SonarCashless points where festival-goers could request their RFID wristband free of charge and load it – either with cash or directly from a card – in multiples of five euros up to a maximum of 300 euros.

At these points and at the points where refreshments and merchandise were sold, users could check their balance. To top up the band, unlike in the previous example, the wearer had to go to one of these points to load more money into the band wallet. This difference is partly due to the fact that neither PayPal nor its software was used as a payment bridge between bank account and card payment. To get their unspent money back, users needed to request it before leaving the festival for the last time or half an hour before it ended, or online during the following three days.

In today's world, where we attach increasing importance (even worry about) our privacy and how companies and governments use our personal data, it is interesting and very positive to note that the organisers clearly state on the festival website that this RFID system[61] does not record any personal information (that might allow the person to be identified, including bank details) and nor does it monitor people entering or leaving the festival (festival goers could regard such data as private, especially if monitoring takes place without their knowledge). For this festival, the approach to technology and understanding its logic is of paramount importance both on stage and for the festival experience in general.

Cruïlla Summer Festival (Barcelona) also incorporated this new technology with a few particular features at the 2015 edition.[62] Whereas the 2014 edition of the Low Festival was a testing ground for PayPal's payment wristbands, the 2015 edition of Cruïlla was regarded as an opportunity to test how the system fared when extended to access control, which they call the 'Full Cashless' experience. It should be remembered that this edition of Cruïlla took place only days before the second edition of the Low Festival, whose organisers also decided to extend the usage of RFID wristband technology.

On this occasion, festival goers had to sign up to Cruïlla's web platform or app previously (both were linked and synchronised automatically). They then had to link their ticket to their account using the code number displayed on it and fill in a form available on the website or app. They could then pre-load money from their account, via PayPal (a promotion) or from a credit card of their own.[63]

After arriving at the festival, all they needed to do was go to the ticket desks, where they could exchange their ticket for a textile wristband fitted with an RFID chip, after associating it with their ticket and accounts, and scan it at the entrance barriers by tapping their wrist against the scanner at the side. Like many others that use the same system, this wristband could be deactivated if it was lost or stolen, and was therefore a safer method for festival goers as it made their experience more comfortable.

Another particular feature of this technology is that, in addition to enabling payment and fast access to the festival areas, it offered a new social function through Facebook. If users accessed the web zone of their account, they could activate the wristband's *Facebook Connect* option, allowing them to use the data connection terminals located in various areas (large panels with a sensor area which the wristband could be swiped over) to update their Facebook status automatically, incorporating the place they were at, or upload photos.

Another Spanish festival that has gone in for the cashless system is **BIME**.[64] This event chose to adopt fast payment wristbands for its most festive side – that is, for the latest 2015 edition of BIME Live. The experience involved a total of more than 22,500 people who attended the Live section, which lasted three days.

Also in alliance with the digital payment platform PayPal, wristbands were used to enable festival goers to enjoy a cashless and cardless experience. All they had to do was register on the website or app and link their ticket to the wristband (or in situ, at the ticket desks). Getting unused cash back is an important part of ensuring a good final experience. In this case, as in that of other festivals that had relied on the PayPal service, if the money had been loaded from the website or app, it was returned automatically within 15 days. If the user had loaded it at the festival ticket desk, they had to fill in a form.

A festival that has been toying with this technology outside Spain is the **Bonnaroo Music Festival.** They have been testing RFID technology on wristbands since 2011[65] at least, as substitutes for passes or textile wristbands for controlling access to spaces and areas of the concert.

In 2012 the function of connecting bands to Facebook was added for the express purpose of encouraging and allowing festival goers to automatically update their social media by indicating which concert they were at and where, in order to help them find out if any of their contacts were also at the festival, for example.[66]

To implement this function, the festival's designers devised a shortcut consisting of various types of posts[67] equipped with RFID readers, which read the frequency of every wristband linked to a specific and personal Facebook profile.[68] Live Click Stations were set up solely for the purpose of generating an automatic message in users' personal accounts indicating the area or concert they were at. If, instead, they fancied sharing a photo of the moment, they could go up to one of the Live Photo Stations, which automatically took photos with their inbuilt cameras, and share them by swiping their band over the sensor.

Bonnaroo therefore allows us to trace the development of this type of technology and its potential uses at festivals. At the latest edition it evolved into a wristband that could be used for cashless payments and be connected to the app. This calls for a comprehensive design in which all the technological devices are based around the visitor's identity and actions.

What is more, to speed up the access and identification processes at the start of the festival, the organisation sends future attendees their wristbands beforehand[69] and asks them to log onto the site and provide information (to link the wristband code and the ticket code to their own registration information) through the website or the app.

On arriving at the festival, all they need to do is validate the wristband in a matter of seconds and start enjoying the experience (it should be remembered that more than 80,000 people attend). With everything connected and with the additional aid of the beacons installed in the festival grounds, people can use their mobiles to share their location and geolocate themselves inside the festival, pay, etc. In short, it unifies the various processes into a single one, so that everything runs more smoothly.[70]

At **Coachella Festival**, RFID-enabled wristbands have been used in a very similar manner to Bonnaroo. The organisers began employing the access control version in 2012, and by 2015 they were using them for the same purposes as Bonnaroo, incorporating them into the cashless system, in the festival's app, and adding social networking features. They also mailed the wristbands to festival goers weeks in advance in an attractive box complete with an instruction manual and tips for enjoying the festival.[71]

A particular feature in 2014 was that the wristbands also incorporated a new option with Spotify. Every time users checked in at a new concert stage (using one of the devices at the entrance to these areas), they connected with their Spotify account they had previously synched to the festival and the following day Spotify provided them with a playlist of the songs performed at the concert they had attended.

Here, as at other festivals, future visitors are warned of the problems that may be caused by purchasing tickets from unknown third parties/scalpers, as every wristband that is sent is partially associated with the ticket (each band with its RFID has a unique code).

The Belgian festival **Tomorrowland** introduced RFID-enabled wristbands in 2013[72] solely for gaining access to the grounds and to the various areas. In 2014 it added two new functions: cashless payments, as we have seen at other festivals, and a small heart-shaped button allowing festival goers who met during the festival to add each other as Facebook friends.[73]

To do so the two people who wished to add each other as friends had to hold their

wristbands together and press their heart button at the same time. The next time their bracelets were scanned the Facebook friend request would automatically be processed. In 2015, however, no further changes were introduced nor were the bands linked to the app as in the cases of other festivals.

It should be stressed that Tomorrowland and its American spinoffs take very seriously the elaborate imagery they develop as their own distinctive storyline, an aesthetic that is designed to provide an enhanced experience; they even incorporate it into the wristbands that are delivered to attendees' homes weeks before the festival.[74] Instead of fabric or plastic, the wristbands are made of leather or materials similar to those of hand-crafted fashion bracelets and the device in which the RFID is embedded is shaped like a logo in relief. The box in which the wristband is sent together with instructions sports a similar design.

The use of this wearable technology (RFID-enabled wristbands) at music festivals attended chiefly by young people is spreading, given its potential and ability to improve certain aspects of festival goers' experience. We could add a few more names to the list, especially festivals in the US – such as Mysteryland, which was the first in the country to adopt the cashless system, Lollapalooza[75] and the **Governor's Ball** – or Europe, for example **Weather Winter** in Paris.

This new type of wearable technology looks set to take over and unify basic festival processes. As we have seen, these wristbands make it possible to unify tools for rapidly validating access, speeding up the payment of drinks and merchandise, social networking and sharing activities. From the point of the view of the organisation and management, these tools also facilitate many crucial points (payment times and handling of queues, entrances/exists), as well as providing much more data in real time in a manner compatible with protecting festival goers' rights to privacy and information.

2.7. Drones

Robots have been around for some time now (in factories, or in less substantial form, as Internet bots...), but if there is one kind of technology that has been attracting attention in recent years it is drones. Technically termed unmanned aerial vehicles (UAVs), they can be computer or remote controlled or autonomous, equipped with onboard computers or even artificial intelligence technology.

Drones, the most commercial version designed for civil usage, have been notable in recent years for their sudden price drop, more efficient manufacturing methods, improved design and software (they come with hardware and free software) and new uses. They have also received significant impetus from maker and DIY culture.

Civil drones are most commonly used to take aerial images or to transport small objects. They have been used to record music at concerts of very different types (pop, heavy metal...). In contrast, they are still rarely used at festivals, though they could perform interesting functions in the future. So far they have been used more to enhance the aesthetic experience at festivals.

The heavy music festival **Resurrection Fest** (in Viveiro, Galicia) has been using a drone to take aerial images since its 2013 edition.[76] The purpose is to document the festival from a different angle – photos are usually shot from below the stage – and share them with attendees on its Facebook page as fond memories.

To test another possible use for drones at festivals, at the past edition of the **Wireless Festival** the Pepsi Company ran a publicity campaign called *The Friend Finder*, which might well have been an integral part of the festival.[77] It basically consisted of drones in the form of floating spheres (a design inspired by dirigibles) with interactive LED screens. If people got separated from their friends, they could get the app with the same name (not the festival app) to guide them to a meeting point controlled by a remote team who received requests through the app.

This is a very striking example, but it could trigger new practical ideas for festivals that take place in very large open spaces. For example, the 2013 edition of the South African music festival **Oppikoppi** experimented with the *Oppikoppi Beer Drone*.[78] As its name suggests, anyone inside the festival could use an app to order a beer, which would be brought to where they were by a drone using GPS. The beer was dropped from the air in a small parachute.

As stated, these nascent technologies whose cost is falling have various potential uses – notably taking photographs with lightweight cameras and even high-quality low-cost cameras like GoPros, which are the type most commonly fitted to these aerial vehicles.

However, on the subject of drones and festivals, mention should undoubtedly be made of **New York City Drone Film Festival**, which is devoted to all audiovisual creations using drone technology in short-film format (no longer than five minutes) in various categories, including their most common use: for filming sport.

Nevertheless, when putting drones to any use (recording and observing, taking photographs, putting lost friends in touch) it is necessary to study the legislation of the country and area in question on technology of this kind and air space. In Spain, the emergence of these devices and their increasingly widespread use owing to rising sales has led the state agency for air security (Agencia Estatal de Seguridad Aérea, AESA) to regulate their use and characteristics[79] in order to protect security in various aspects (people's physical integrity, privacy...).

When considering their adoption, it is therefore advisable to examine current legislation and security criteria in order to protect the safety of festival goers and to ensure that there is no problem with using the airspace above the festival grounds.

2.8. Other technologies: responsive websites, QR codes (reflection), Big Data and VR

We will not be commenting on **websites** in a separate section in this edition of the Annual Report for a very simple reason. When we asked what is meant by 'new technologies', we had in mind those that can provide cultural managers with opportunities. Are websites a new technology? Web technology – or rather all the most essential technologies involved (software and codes, hardware and network cables, the Internet) – has been around for more than a couple of decades. More importantly: it is widely used in its most basic forms.

In a more sociocultural sense, web technology is something familiar and no longer revolutionary. Every day, the vast majority of us browse dozens of websites in search of information, to read the news, to make purchases or download files, and to socialise (chat with friends, share links with other contacts...). If we examine the world of the Web in greater depth, it is evident that it is constantly changing. Those flat, static websites of the 1990s or the beginning of the last decade are a far cry from the hundreds of technical, creative and communicative possibilities we enjoy today.

Nowadays nearly all festivals have a website. Their temporary or seasonal nature requires them to develop as effective as possible communication mechanisms to keep audiences informed of the upcoming edition and its activities.

We may take website to mean a space, however basic, where all the essential information about a festival can be found – dates and location, activities, times and guests, mission (what it is), collaborators or sponsors, and how to get in contact. There are simple websites designed using free platforms such as Wordpress.com and free templates and highly sophisticated and interactive websites created by teams of web designers and developers, especially for projects that are more complex or involve a large amount of information.

Currently, according to INE[80] statistics for 2014, 76% of the population aged between 16 and 74 used the Internet fairly regularly, and that year mobile Internet access (through devices such as smartphones or tablets) was two points higher than fixed Internet access (desktop computers).

Worldwide[81] there are now more than three billion users, meaning that nearly 50% of the world's population have some kind of Internet connection. According to ComScore, towards the end of 2013 this trend was also reflected on a global scale,[82] with a difference of more than 10% between mobile and fixed Internet access. And by the beginning of 2015,[83] the percentage of people who use only mobile Internet services had surpassed that of those who use desktop Internet almost exclusively.

This implies many things. First and foremost, it points to a present and immediate future where mobile Internet access will continue to rise.[84] Therefore, websites and digital spaces must be adapted accordingly.

Mobile Internet access entails many different screen formats – screens smaller than those of a laptop or those in our office, but also others that are larger, such as those of so-called Smart TVs – all of which coexist in the same environment. It also means that there are various Internet speeds which are constantly modified, and qualities.

Whereas with desktop Internet computers are connected by a secure fibre optic cable or a stable Wi-Fi system, at a more or less constant speed, with mobile Internet access the connection speed increases or diminishes depending on how near or far the device is from the antennae that emit the signals, the spectrum quality (if they are sent in 2G technology, it will be 56 kilobytes per second at the least, as slow as 1990s Internet with modems, or 4G technology,

with speeds as fast as 100 megabytes per second for downloading information) or the user's deal and type of mobile phone.

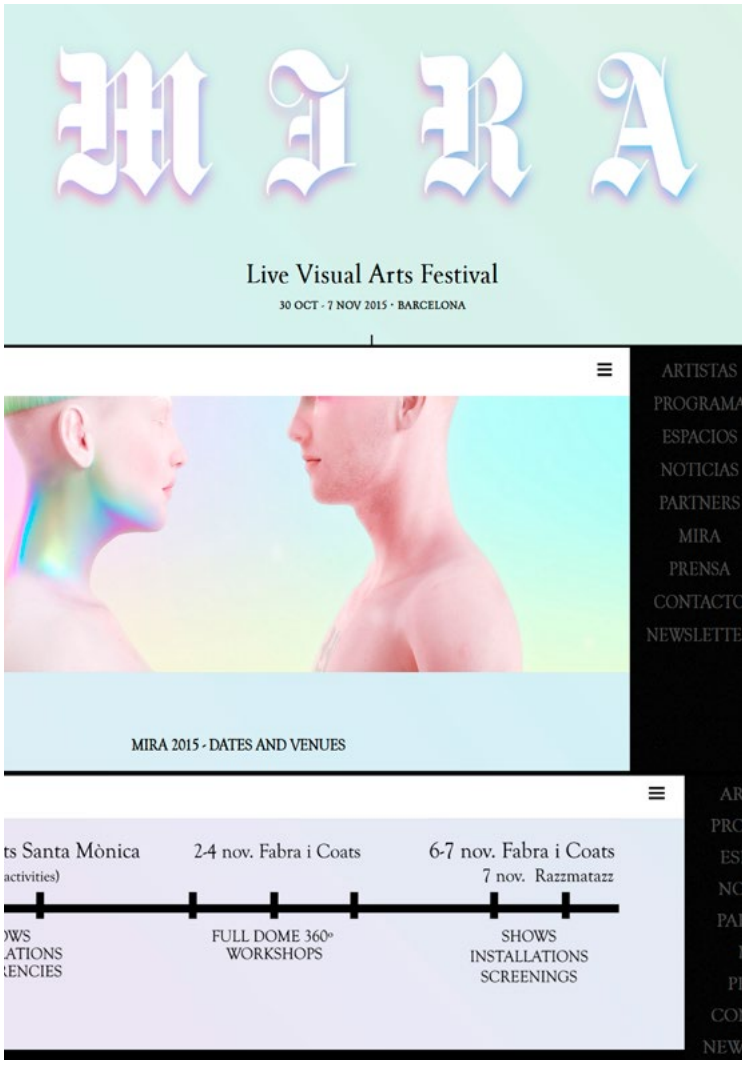
It is as simple as realising that connectivity varies throughout the day as we might spend hours working in one place, travel on public transport, then go home. We are therefore witnessing an increase in the use of apps but also in website browsing on mobile devices. Many of the festivals we spoke to have detected through their analytical tools this increased access to their website from mobiles, such as **San Sebastián International Film Festival**, to cite one of the most important.

One of the trends and requisites for any website is switching to a responsive type: a website that can respond and adapt rapidly to any screen size and format, meaning that buttons and menus are enlarged on small screens instead of decreasing in size in accordance with the scale (otherwise they are almost illegible).

Website design must be approached differently compared to ten years ago, as these new circumstances call for a site that can be viewed clearly on screens of all sizes. Websites must be organised and designed to facilitate fast browsing (not only in terms of speed, but also reading) of the most essential information designed from the point of view of user experience (this also explains the rise in User Experience/UX studies).

To sum up, websites need to be designed from the user's point of view and this design must be subordinate to their content unless it is a part of it – as is the case with a few new media festivals – or there is a wish to focus strongly on the cultural disruptions of new media and virtuality, as with the website of **Today's Art**,[85] a festival devoted to visual art, performances and music.

One of the most common styles in recent years is Flat Design (based on flat, highly legible figures in colours that are not overly striking but are appealing and look good on many types of screens). However, we also find sites that continue to respect adaptivity to screens and have a good architecture and well-distributed information but display different styles, even reflecting underground Internet culture (such as the trends we see in Tumblr communities), for example the websites of **MIRA Festival**[86] or **transmediale**.[87]



What is more, since 2015, Google, the leading search and indexing engine, has been penalising websites that are not responsive.[88] By penalise we mean that Google decided to stop giving a high ranking (among the first hits in a related search) to websites that were not mobile friendly.

For example, if a literary festival wished to appear among the search results for something

as logical as 'Spanish literature' and had a static, antiquated website, Google would penalise it by giving it a much lower ranking than other literary websites in the country that are already mobile friendly.

To sum up, having a website, however simple, is essential in an age in which Internet access is so widespread and everyday, and so is adapting and optimising it for new screens to ensure that it takes up as little space as possible and loads fast (the longer a website takes to load, unfortunately, the more users give up and search for information on other sites). Content should not be subordinate to design but vice-versa, though design and originality do not necessarily have to be incompatible with good content.

There are low-cost solutions for those who cannot afford a professional agency, such as the responsive templates available from platforms such as the aforementioned **Wordpress**, and tools such as plugins for improving some of these aspects.

Let us now take a look at a different technology. **QR codes** have become another somewhat controversial field in that their use appears to have hit a ceiling, or at least come to a standstill.[89] This is attributed to the fact that most smartphones or mobiles with cameras do not come with a programme that reads these codes and users need to make an initial effort to find and download an app that does this.

Some people are used to finding them and have installed the software, but as these codes have so far been slow to catch on in various sectors and environments, and have done so unevenly, they are not often needed during a typical week.

This does not mean to say that QR codes have completely fallen from favour or have no use. For example, as we saw in the previous edition of the Annual Report, they can greatly enhance content for festival visitors and have amazing potential in the educational field.

They offer significant advantages. For example, it is very easy to generate codes thanks to the existence of open code programmes that are free and even readily available[90] as they do not require installing anything on the computer or special knowledge. Another positive feature is that they can 'hold' many types of information, such as a specific website address, or even audiovisual content such as videos or images.

Many festivals choose to combine printed programmes with QR codes so that anyone wishing for further information (for example, an artist's biography or film credits) has only to scan the code and be redirected to a website where they can access this information. This avoids making the programme too long and wordy.

The **Nocte Graus International Performing Arts Festival** includes a code on its printed programme that redirects users to the website for further information. This approach is also chosen by the **Almagro Classical Theatre Festival.**

The **San Sebastián International Film Festival** includes a QR code on print material, including the film catalogue, where each film has its own code that redirects to the credits and complementary information.

Many online ticket sales services use a QR code to identify each ticket, be it the print or digital version (PDF) or the service app. In this respect QR codes have been adopted by a large number of festivals as tools for controlling and verifying access to paid and restricted activities. The process can be performed quickly using a QR reader (a specific device or a mobile installed with QR code ticket scanning software).

Many festivals, whether musical, literary or visual arts, have been using this technology for a few years in a very natural manner. This is where QR codes have been most successful – in the context of event ticketing – and have enhanced visitor experience compared to decades earlier.

Nevertheless, as we have seen, some of the functions QR codes could perform are beginning to be replaced by other technology. For example, wristbands fitted with RFID chips work very well at large festivals with many attendees and speed up the ticket validation process, and beacons can provide up-to-date information relevant to the place the attendee is at, in this respect offering possibilities that QR cannot.

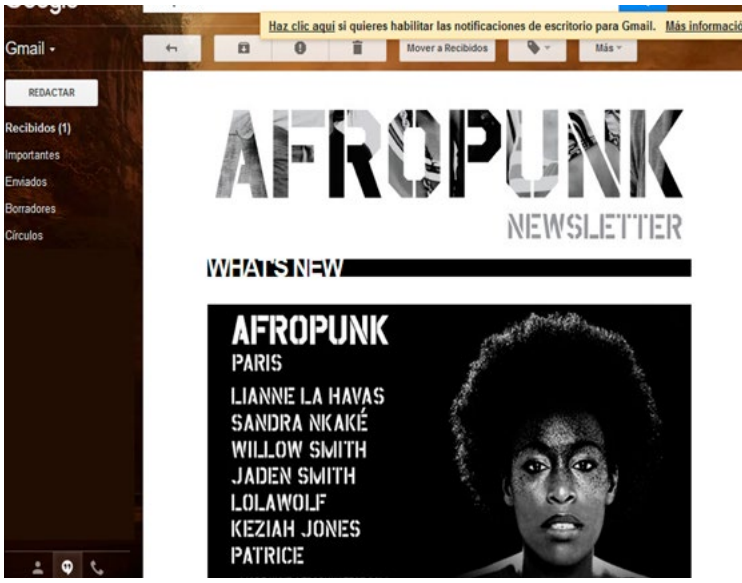
In short, QR codes are very useful in many contexts and can be an efficient and fast solution for management and visitors alike, as well as requiring very few resources.

Another online tool that is triggering a certain amount of debate as to its usefulness is mass **emailing** in the form of **newsletters** with freemium tools (basic services are free, more complex or specific ones are paid for), such as **Mailchimp**, or the Spanish version, **Acumbamail**. This consists in sending specific groups of people (followers or attendees from previous years who have supplied their email address for this purpose, interest groups such as journalists or influencers in a particular field...) messages containing information – in this case about forthcoming dates, activities and promotions, as well as more special, specific content.

The fact is that it takes skill to word messages of this kind to make them relevant and appealing. Some experts in digital communication[91] reckon that the newsletter format[92] is becoming more widespread and useful. Others hold that the opposite is true. But newsletters may work better or worse depending on the type of audience, and on their design and the tone used.

For example, the organisers of **OFFF Festival** told us that they used to send out emails of this kind for years, but after a time they noticed that they were not getting such a good response, so they stopped using them and turned mainly to Facebook and Twitter to communicate with their audience. In contrast, **Kosmopolis** festival divides its newsletter recipients into two main groups – everyone who has filled in a form providing an email address for receiving these publications, and influential agents in the field of culture with whom they are in contact – with different objectives and approaches to relations, and this works for communicating and keeping people who are interested well informed.

Every week **Afropunk Fest** festival issues a very attractively designed newsletter with carefully written content on art and African and Afro-American music that has been selected by the organisers (and is related to artists who have played or are due to play at the festival) or is commented on by the community. Promoting the festival appears almost to be a secondary concern of the newsletter, which is used to further its mission of giving impetus to and spreading contemporary Afro-American culture.



If we have discussed beacons and the Internet of Things, we should also mention Big Data and advanced web analytics, as together they make up two of the minor digital revolutions of this decade.

The term **Big Data** refers to the huge amount of data generated by humans and reproduced online as well as offline in general. We are attaining record levels of data storage, and they are still rising. It is reckoned that we are about to hit the 300-exabyte mark for data generated and stored – trillions and trillions of megabytes.[93]

But the term also refers to an explosion of software for organised storage, managing large databases and sophisticated analysis, including viewing cross-data to detect new knowledge with respect to managing the fields that the organisation covers.

On a practical level, organisations can come across a lot of information in their day-to-day running (it all depends on the type of activities they engage in and their size). For example, many festivals with a website use **web analytics tools** to measure variables such as how many users visit their digital spaces, which content receives the most visits and how long for, what they click on from the homepage... Basically, these tools reveal information that can be very useful for measuring development. The best known is **Google Analytics**, which has been used for years by many organisations as part of their monthly or quarterly management analysis routine.

For example, in 2015 the **International Fantastic Film Festival of Catalonia** began to use new tracking tools from the ticket purchase stage onwards. This has enabled the organisers to produce more relevant newsletters targeted at specific segments of followers depending on their interests.

However, this is not necessarily Big Data – it would only fall into this category if there were very many different variables along with very many visits (not thousands but dozens or hundreds of thousands daily). It is therefore more usual for Big Data to be generated only by high-profile festivals, for example.

Analytics tools can be interesting at many levels, regardless of whether they produce or store a large or small amount of data. As we saw with **Bonnaroo** and its app, the festival was able to use a programme to view in real time where the largest concentrations of people were located in order to respond in time to overcrowding, making use of their system of beacons combined with apps.

At its past 2013 edition, **Sónar Festival** used real-time analytics for a different purpose – awareness raising – to emphasise the constant tracking to which we can be subjected, especially how relatively easy it is to analyse influxes of people and the areas through which they circulate by extracting information from the MAC address of festival goers' mobile devices by means of sensors stationed in the areas of Sónar +D.[94]

This practice, if taken to an extreme, could stretch the ethical limits of privacy, as a MAC address is a unique identifier of each device (mobiles, computers). If we realise that nowadays every smartphone is associated with its user from the outset through apps and a data plan, it is easy to see how the MAC address can be something that allows a person to be identified.

This project, called '**Sé lo que hiciste en el** último **Sónar**' (I know what you did at the last Sónar) and run in collaboration with Barcelona SuperComputing Center (BSC-CNS),[95] was publicly announced on the festival's website days earlier as a collaborative experiment. The press release stated that BSC would ensure the anonymity of the data before feeding it into any database. The organisers also supplied a public website[96] where anyone could view the data 'in motion' throughout the areas – that is, the influx of people moving through the spaces. It was thus transparent and available to anyone.

In this case we are dealing with use of Big Data by the festival itself to disclose one of the impacts of new technologies on society

in line with what it also discloses through the conferences and activities of Sónar +D. Concern with privacy is not simply a growing social and cultural trend or a fashion. We will expand on a few considerations in the following section.

Finally, one of the applications we can use to broaden or access new options at a festival is **Virtual Reality** (VR for short). Only a few years ago speaking of VR sounded like science-fiction or brought to mind colossal technical investments in artistic or experimental installations.

By virtual reality we mean a graphic environment that is digitally (computer) generated or manipulated and captures at least the sensations of sight and hearing and sometimes also touch using special gloves or special effects in the environment, and in a few cases sensations, to the extent of creating an impression of reality or a plausible realistic environment. Its best known applications are in the world of videogames.

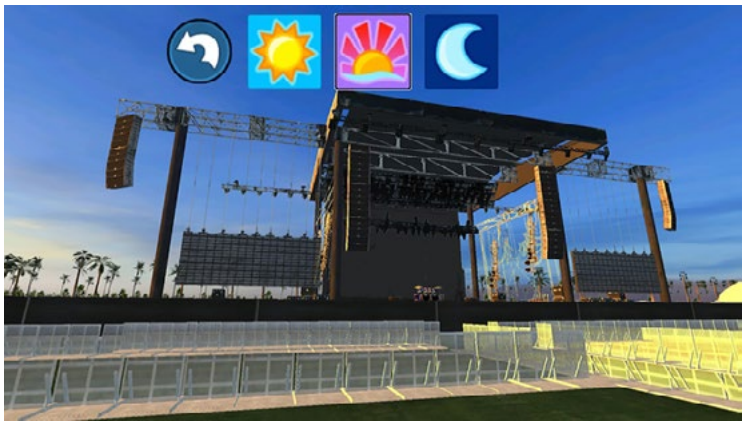
Nowadays its capacity and game engines have improved and software, cameras and methods have emerged for simultaneous 360-degree recording (essential for generating a full three-dimensional filmed experience) with fewer resources, though there is still room for improvement and further development.

Another factor – perhaps the most important in explaining its foray into the commercial domain – is the appearance of low-cost glasses which have in turn stimulated the development of new products tailored to them. One example is the **Oculus Rift** headset with built-in headphones. Its first version made the news as the prototype was funded using a crowdfunding campaign on Kickstarter. In 2014 the company was purchased by Facebook.[97] It creates a fairly accessible sensation of virtual reality that is geared especially to the videogames market.

Furthermore, we now have **Cardboard VR** glasses (yes, they really are made of cardboard!). The best known are Google's, which were launched in 2015 (and are therefore a very recent development, still in its infancy).[98] They consist of frames – generally made of cardboard, though there are slightly more sophisticated versions in plastic, metal and other materials – which hold a smartphone.

In addition, the design of the frames is freely available for no cost (the Open philosophy, something to be very grateful for) on Google websites and many others, so that anyone can make their own out of a piece of recycled cardboard. Perhaps the most costly part is getting the made-to-measure convex lenses. But there are also very cheap DIY kits.

The idea is to convert a mobile into a virtual reality viewer (limited to sight and hearing) inspired by old-fashioned stereoscopes. To do so, it is necessary to download and install an app designed for this purpose on your mobile (there are currently videogames, proprietary virtual interfaces and other leisure experiences), whose screen is divided into two with each side providing a slightly different view. With the viewer, users can enjoy both the view and a three-dimensional experience.



This technology has already been experimented with in the performing and audiovisual arts, such as at Paul McCartney's concert 'Live and Let Die'.[99] But one festival in particular has begun testing the ground: **Coachella Festival**. Using an app for Cardboard, **Coachella Explorer**,[100] the organisers experimented with showing

the spaces of the latest edition of the festival from a digital aesthetic. This app started out being developed unofficially by two developers of VRation to offer festival fans a different experience. The organisers liked it so much that they included it as part of the festival.

Although this app appears incomplete and only offers a different aesthetic and fun experience, in the future it could be used for different purposes such as rebroadcasting performances or augmented reality experiences for broadening information.

We have ended this section by taking a look at various new technologies which, despite not being significantly represented or impactful at festivals as they are so new (or, in the case of websites, which are very well established and everyday, not so new in themselves), should be taken into account for their potential to improve festival goers' online and offline experience. The following section provides a few contexts that readers might find useful.

3. A POST-DIGITAL AND CONTEXTUALISED APPROACH

So far we have examined some of the new technologies that are starting to be used at festivals, both in Spain and all over the world – specific technologies for enhancing a few aspects of visitors' experience and ways of improving our relationship with them.

At this point it is appropriate to make a few comments on the paradigms which govern new technologies and can help us fit the pieces together more strategically, pragmatically and, above all, wisely.

In some academic and artistic environments there is talk of the concept of post-digital. This does not necessarily mean that the digital age is over and that we are witnessing the start of something completely different. Whether or not it is the most fitting term, it is used to designate a number of changes in paradigm and in attitudes towards these technologies, but it also refers to the new economic and cultural forms related to the concept of digital, practices that have become established in recent years and affect both the people who live in today's Information Society and organisations of all kinds.

One of these changes is closely related to how we perceive these new technologies. Between 20 and 15 years ago, when the large majority of the population had at least one PC with a noisy modem Internet connection, digital seemed very new and the digital society sounded like something out of the future. A future in which so many processes and communications would be governed by these (at the time) new technologies seemed like science-fiction to us. In general every new platform, every new device and every new social network triggered in us a certain sense of wonder, or a certain amount of fear.

But over the past decade we have not only assimilated these technologies but have embraced as ordinary and everyday a whole host of methods and a culture that can be classified under the broader concept of 'digital'.

Post-digital is partly characterised by our having overcome that ability to marvel at digital.[101]

Some say that the digital revolution is no longer a revolution but merely a mainstream digital society. Actually we are still witnessing minor technological revolutions such as those described in connection with festivals, but the most significant are probably those that relate to attitude, the new behaviours we are seeing.

For example, when the social media initially appeared some people were wary or indifferent towards them, whereas other people threw themselves into experimenting with new platforms of this kind like Myspace or Facebook. Nowadays the great majority of the Spanish population, for example, use at least one social media site once a week, whether to find out how their contacts are and what they have shared, to check and clear their inbox, or simply see what other people are doing.

Many of the people who enthused about them back then used to go on these sites fairly or very often to do many things such as chat, check out their friends' statuses and links, or simply spend some time. In recent years some social media such as Facebook have witnessed a decrease in usage. There are more than a billion users all over the world, but some of those who used to be very active are becoming less and less so.[102] Others continue to go on the site very often, however. We are learning to use more specialised platforms for sharing images (such as visual social media like Instagram) or for sharing thoughts, opinions or knowledge (once again, blogs like Tumblr).

We have also decided to cut down on these habits more: at first it was exciting to discover that we could share everything we came across with our contacts and we accordingly shared links, news, events, etc., but we learned from the resulting overload of news, articles, recipes and photos not only that 'less is more' but also to focus what we shared more on our tastes and those of the friends and colleagues who are our contacts.

The youngest users, born in the late 1990s and at the beginning of the last decade, do not bother registering on these social media which are more populated and static in comparison to some of the newer ones with other game rules that they go on to interact, such as Snapchat (messages that are eliminated after five seconds, very visual...), Tumblr, or videoblogging or messaging services like WhatsApp.

A turning point in recent years was marked by the Snowden case (2013), though it was not the only one to have triggered a major debate. Since then we have witnessed how the population is becoming increasingly aware of the importance of data in the new digital economy, and of some of the contexts in which data is gathered, especially on their online activity, such as when they visit a page, what they click on, their browsing history (user tracking) and the use of data verging on the sort that can be directly linked to a person's identity, be it a unique and unmistakeable pattern or fingerprint, or because this data is associated with other details that can identify the person (names, email addresses, geolocation...).

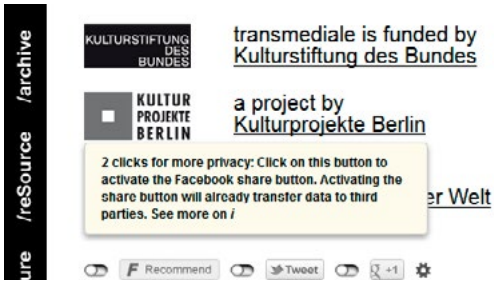
The privacy ethic and acting in accordance with legislation such as the Spanish data privacy act (LOPD) and its European counterparts is not merely something that should be borne in mind; some users are now demanding that the process be transparent or that users be informed of what data will be collected from them and for what purposes, so that they can even decide whether or not to supply it.

As a result, in 2014 the Spanish data protection agency compiled a law which requires that users be informed[103] when a website is tracking them using cookies, in the form of a message that pops up in the upper or lower part of the screen when the website is accessed. They need to click on the message to confirm they have been informed if they want it to disappear.

A festival that has taken the idea of providing a better and more ethical web experience slightly further is **transmediale**. At a festival where, for several editions, discussions and works have been devoted to the issues commented on in this section, it seemed more than appropriate to experiment with practice in a sense.

Their website appears to be sparingly designed, but the articles published on it have a particular feature: although there are buttons for sharing and posting on the social media, as found on many Internet websites, they are visibly 'disabled'. The buttons are grey, and each has an on/off button. When you slide the cursor over one of them, the following message appears:

> 2 clicks for more privacy: click on this button to activate the [Facebook/Twitter/Google+] share button. Activating the share button will already transfer data to third parties. See more on i[nformation]



In the previous section we also spoke of Sónar Festival, which in 2015 experimented with tracking festival goers' mobile data, informing them in advance of the experiment and inviting them to view the flow in real time, as a means of display and a tool for stimulating debate on these issues at a festival and a section, **SónarD+**, which has also been exploring them in recent editions.

Once again, being concerned about protecting attendees' privacy in environments increasingly populated by sensors, cookies and other tools of this kind is tantamount to being concerned about improving our audiences' experience at our festivals and cultural spaces, in turn generating confidence. Because a festival's scope also extends to the Internet.

Another feature of what we take to mean post-digital – or at least the start of a period of social and cultural consolidation with digital – is moderation in the use of technologies. Organisations that are 'digital natives' (established especially between now and 2000 and operate comfortably in these environments) or underwent digitisation some time ago tend to use not a broad range of the newest digital technologies but only those they need at a particular moment.

These technologies are thus already part of day-to-day life, just like paper books or ballpoint pens. The illusion that digital would undermine off-screen ('real world') experiences and behaviours and that we would end up in a parallel and artificial virtual reality (we are exaggerating slightly to get the point across) is fading as we are discovering that tools such as email merely add a complementary layer or experience rather than taking something away from real life. We are returning to a focus on more human relations, direct contact whenever possible, and this is also being seen in some arts and professionals, and is fully materialised in pixel art or 3D-printing art.

In this post-digital environment, however, people are calling for a return to thinking and contemplating from a human and social rather than a technological perspective, for making humans the centrepiece of any strategy and technology the tool. In this respect, practices are emerging in which analogue technologies and methodologies – the sort that have 'been around for ages' (doing things by hand, processing data in a more artisanal way...) – can coexist perfectly with the newest sorts.

The organisers of **OFFF Festival** tell us that this is the approach they take to internal management and visitor relations.[104] They confess that the number of people who attend

can still be managed well 'analogically' and they do not need more sophisticated tools for processing data or access control. For the time being, they combine very intensive social networking to disseminate their programme and keep in touch with their audience, who react very positively, with an app – which is what works best with their audience.

The **Nocte Graus International Performing Arts Festival** also opts for a pragmatic approach to the social media. The organisers reckon that, as a festival where attendance is completely free of charge, it can cover all its digital communicative needs with the social media (for example with its Facebook account which they have managed exclusively since 2009, where they share the official photos of past editions, supply information about their activities, etc.) and with locally distributed programmes featuring QR codes that provide broader information from its updated website.

4. CONCLUSIONS

Festivals coexist with all today's social and cultural changes, meaning that they also perceive technological transformations and their effects in some way. As stated at the beginning, many festivals have already considered introducing digital technologies in some way or another, even if it is only through a website or blog.

New technologies are not incompatible with more social approaches or with traditions. We have thus seen performing arts festivals devoted to Baroque theatre (such as the Almagro Classical Theatre Festival) that have adopted the most useful new tools, and we are also witnessing the emergence of festivals that rely more on geographical ubiquity and the new media, such as #TwitterFiction Festival.

Embracing technology does not entail going in for all technologies so much as knowing what they have to offer and identifying which ones are most useful to each project, structure or mission. For example, festivals embrace technologies that adapt to their ephemeral nature. They cannot build major installations merely to enhance the audience's involvement. But setting up an installation with innovative or technological interfaces as part of the festival content is a different matter.

Some of the ideas we have examined require a larger infrastructure, and others essential features such as a structured website, but we have also seen cases of more affordable tools, as well as alliances with technological, digital or telecommunications firms to test, experiment and improve the audience's experience.

The audience has become the centrepiece and festivals are seeking to enhance or broaden their experience emotionally, aesthetically or intellectually in digital and ubiquitous space, and in time. The design of apps, the festival's architecture, and the installation of sophisticated devices such as beacons are centred on the user. Everything needs to be combined with studying the festival's mission, philosophy, goals and cultural role, as well as the resources it already

has (not only financial but also the potential of the staff, time...). Being committed to making the festival the best experience for the people around us through new technologies, such as the social media, can promote the more social side and the more fun side, if wished, as after all festivals are all about celebrating a field of human expression and creation.

There are no instruction manuals or route maps explaining how to use all aspects of the tools or even which tools are best for each festival, but there are specific examples to go on. In a sense, this opens up a whole field for discovering new paths; we all have the means and capability to experiment and be creative with these new tools, mercilessly – but intelligently and pragmatically – combining old tools and methods such as public relations and face-to-face with the latest wearables. For, as we are seeing throughout the post-digital wave, the revolution does not consist in going in for the newest of the new but rather incorporating it, like parts of a mechanism, into others that might well be analogue. Miscalculation is always a possibility when experimenting, but it is less of a mistake when shared with others.

Therefore, we might say that refusing to embrace certain media such as the social networks amounts to being left outside the circle of a fairly or very large portion of the audience. These, and others, have brought major improvements in a host of aspects commented on in this report. It is up to us to experiment, discover, discard what is of no use, discuss and get the audience involved; and digital, technological tools are there to help us. The cases we have examined show that all this is possible.

Endnotes

1. http://twitterfictionfestival.com/instant ◂
2. http://www.lafura.com/noticias/disponible-la-app-de-m-u-r-s/ ◂
3. http://industriamusical.es/infografia-compartir-la-experiencia-del-festival/ ◂
4. https://www.youtube.com/watch?v=PAhW5rUYVQ4 ◂
5. http://kosmopolis.cccb.org/es/que-es-kosmopolis/ ◂
6. https://open.spotify.com/user/oddfellowsev/playlist/1R9pG1FohrQz9ilnVnQI9F ◂
7. http://www.huffingtonpost.com/lauri-lyons/afropunk-festival_b_8006954.html ◂
8. http://www.afropunk.com/forum ◂
9. https://www.comscore.com/Insights/Blog/Major-Mobile-Milestones-in-May-Apps-Now-Drive-Half-of-All-Time-Spent-on-Digital ◂
10. http://www.axs.com/news/2015-version-of-coachella-mobile-app-includes-friend-finder-shuttle-tr-46244 ◂
11. http://www.verkami.com/year/2014/es#2 ◂
12. http://www.verkami.com/projects/396-bccn-barcelona-creative-commons-film-festival ◂
13. https://www.kickstarter.com/projects/112720212/cine-migratorio-film-festival?ref=discovery ◂
14. https://www.kickstarter.com/projects/waxpancake/xoxo-festival?ref=discovery ◂
15. https://screen.ly/faq/screenly-basico/ ◂
16. http://www.crowdfunder.co.uk/fundraising/edinburgh-fringe-festival ◂
17. http://www.cooncert.com/grec-festival-2015/es/barcelona/3159-lisandro-aristimuno-la-legendaria-familia-stinson ◂
18. http://www.europapress.es/catalunya/noticia-grec-lleva-electronica-atmosferica-olafur-arnalds-barts-20140716145029.html ◂
19. http://www.lavanguardia.com/ocio/20150120/54423550090/grec-2015.html ◂
20. http://www.phonetasticfestival.com/home.php ◂
21. http://twitterfictionfestival.com/instant ◂
22. http://news.wabe.org/post/big-idea-behind-oakhurst-porchfest-music-festival ◂
23. http://www.oakhurstporchfest.org ◂
24. http://issuu.com/artfutura/docs/artfutura_2015 ◂
25. http://issuu.com/artfutura ◂
26. http://transmediale.de/archive ◂
27. https://tribecafilm.com/stories/vote-tribeca-online-film-festival-2014 ◂
28. http://www.homemediamagazine.com/streaming/amazon-prime-lands-oscar-nominated-foreign-language-film-32617 ◂
29. https://itunes.apple.com/mx/podcast/2015-tribeca-film-festival/id985757645?mt=2 ◂
30. http://www.eldiario.es/cultura/Atlantida-Film-Fest-cine-salon_0_396160667.html ◂
31. http://www.obs.coe.int ◂
32. https://festivals.festhome.com/home_festivals ◂
33. http://www.huesca-filmfestival.com/el-43-festival-internacional-de-cine-de-huesca-hace-un-balance-muy-positivo-con-6-000-espectadores-y-duplicando-su-presencia-online/ ◂

34. http://live.sxsw.com/category/videos/sxsw-live

35. http://transmediale.de/festival/livestream-preview

36. https://twitter.com/search?q=%23transmediale&src=typd

37. http://www.youredm.com/2015/09/25/watch-tomorrowworld-2015-live-now-day-1-live-stream/

38. http://www.tomorrowland.com/en/news/tomorrowworld-tv-live-streaming

39. https://www.youtube.com/watch?v=IOza3iZWe5s

40. https://www.fayerwayer.com/2014/10/que-es-un-beacon/

41. http://searchcrm.techtarget.com/feature/Privacy-concerns-arise-with-proximity-based-beacon-technology

42. http://ibeaconsblog.com/beacons-at-the-cannes-lions-festival/

43. http://www.adweek.com/news/technology/4-ways-beacons-are-helping-people-network-cannes-165534

44. http://9to5mac.com/2014/07/14/bonnaroo-festival-used-ibeacons-to-collect-valuable-data-about-concertgoers/

45. http://www.mobilemarketer.com/cms/news/software-technology/18309.html

46. https://www.coachella.com/mobile

47. http://beekn.net/2014/04/coachella-ibeacon-way-bluetooth-le-will-change-events/

48. http://www.bbc.com/news/technology-31883643

49. http://9to5mac.com/2014/03/06/sxsw-festival-using-ibeacons-for-interactive-sessions-speedy-badge-pickup-through-ios-app/

50. http://blog.jwt.es/tendencias/como-ayudan-los-ibeacons-a-la-personalizacion-de-la-publicidad.html#.VmBl1OJcJCi

51. http://propid.ischool.utoronto.ca/digiwallet_overview

52. http://premiosfest.com/festivales/low-festival/

53. http://cincodias.com/cincodias/2014/07/18/tecnologia/1405707928_772747.html

54. http://lowfestival.es/festival-indie/pulsera-inteligente/

55. http://lowfestival.es/nota-de-prensa/la-pulsera-inteligente-una-innovacion-para-ahorrar-tiempo-y-dinero-en-low-festival-2015/

56. http://lowfestival.es/festival-indie/carga-tu-pulsera/

57. http://www.rfidjournal.com/articles/view?12201/2

58. http://lowfestival.es/promociones/guialowfestival.pdf

59. https://sonar.es/es/pg/sonarcashless

60. http://ccaa.elpais.com/ccaa/2015/06/21/catalunya/1434919296_067419.html

61. https://sonar.es/es/pg/sonarcashless

62. http://industriamusical.es/el-2015-es-el-ano-del-cashless-rfid-en-los-festivales-espanoles/

63. http://www.cruillabarcelona.com/es/usuari-2

64. http://bime.net/bime_pro/es-es/noticias/noticia/bime-apuesta-por-el-dinero-virtual-como-25onica-forma-de-pago-y-cierra-la-programaci243n-pro

65. http://www.ibtimes.com/rfid-wristband-about-latest-music-festival-technology-bonnaroo-bamboozle-coachella-more-705702

66. http://www.secureidnews.com/news-item/bonaroo-adds-social-media-feature-to-rfid-wristbands/

67. https://www.youtube.com/watch?v=tY_jQ1yyK7g

68. http://www.bonnaroo.com/privacy

69. https://www.youtube.com/watch?v=DEmJ9NnzPeo

70. http://www.rfidjournal.com/articles/view?10829/2

71. https://www.coachella.com/about-wristbands/

72. https://www.intellitix.com/resources/newsarticle/63

73. https://www.quora.com/Which-type-of-RFID-bracelet-is-used-at-Tomorrowland-Festival-2014-The-bracelets-have-a-button-which-allows-festivalgoers-to-trigger-a-facebook-friend-request

74. http://www.festivalsherpa.com/heading-to-tomorrowland-theres-something-you-need-to-know-about-those-bracelets-youre-going-to-be-shipped/

75. https://www.fayerwayer.com/2014/07/lollapalooza-ofrecera-pulseras-inteligentes-para-comprar-provisiones/

76. https://www.facebook.com/resurrectionfest/posts/710826008934071

77. http://www.socialunderground.co/pepsi-usa-drones-para-encontrar-a-tus-amigos-en-los-festivales/

78. http://www.huffingtonpost.com/2013/04/25/oppikoppi-beer-drone_n_3157561.html

79. http://www.seguridadaerea.gob.es/lang_castellano/cias_empresas/trabajos/rpas/default.aspx

80. http://goo.gl/80540Z

81. http://www.internetlivestats.com/internet-users/

82. https://www.comscore.com/Insights/Blog/Major-Mobile-Milestones-in-May-Apps-Now-Drive-Half-of-All-Time-Spent-on-Digital

83. https://www.comscore.com/Insights/Blog/Number-of-Mobile-Only-Internet-Users-Now-Exceeds-Desktop-Only-in-the-U.S

84. http://www.internetsociety.org/globalinternetreport/assets/download/IS_web.pdf

85. http://todaysart.nl/2015/teaser

86. http://www.mirafestival.com/es

87. http://transmediale.de

88. http://www.pymesyautonomos.com/tecnologia/google-penalizara-a-las-paginas-web-no-adaptadas-a-moviles

89. http://www.pfsweb.com/blog/is-the-qr-code-dead/

90. http://www.codigos-qr.com

91. http://asimetrica.org/por-que-usar-email-marketing-newsletters-en-tu-organizacion-cultural/

92. http://vilmanunez.com/2014/03/06/que-es-newsletter/

93. http://www.businessinsider.com/amount-of-information-in-the-world-2011-2

94. http://sonarplusd.com/es/activity/2062

95. http://www.bsc.es/viz/whatyoudid/press/presspack_whatyoudid.pdf

96. http://www.bsc.es/viz/whatyoudid ◀

97. http://www.europapress.es/portaltic/empresas/noticia-facebook-compra-oculus-rudy-2000-millones-dolares-20140325234721.html ◀

98. https://www.google.com/get/cardboard ◀

99. https://play.google.com/store/apps/details?id=com.jauntvr.preview.mccartney ◀

100. https://play.google.com/store/apps/details?id=com.goldenvoice.coachellaexplorer ◀

101. http://www.aprja.net/?p=1318 ◀

102. http://www.forbes.com/sites/parmyolson/2015/01/27/facebook-active-users-decline/ ◀

103. https://www.agpd.es/portalwebAGPD/canaldocumentacion/cookies/index-ides-idphp.php ◀

104. http://hiroshima.mx/festivalofff-3-dias-de-creatividad-y-cultura-post-digital/ ◀

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We welcome your opinions and observations about this publication, which can be sent to raquel.mesa@accioncultural.es

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Telefónica FUNDACIÓN

The *AC/E Digital Culture Annual Report* analyses the main technological trends that cultural managers will need to bear in mind in the coming years in order to have a better understanding of the impact of new technologies on their culture organisations.

This third edition sets out to analyse the impact of new technologies on artistic creation and their use at cultural festivals. Its broad-ranging content has been divided into two main sections to make it easier to read for the different audiences at which it is aimed. 'Smart Culture' is the overarching theme of the six articles that make up the first part. Just as the first report's Focus dealt with the impact of the Internet on the performing arts (theatre, opera, dance, ballet, etc.) and that of the second edition analysed the use of new technologies in the world of museums, for this third edition it conducts a thorough analysis of the use of new technologies at some 50 Spanish and foreign cultural festivals.

Both sections of the *AC/E Annual Report* speak of a hybrid realm halfway between technology and art; of blending between the physical and digital words; of vanishing boundaries between industries; and of the use of smart analyses and algorithms to give value and meaning to the often too much but never enough data. The chosen topics explore the pathways of the new collaborative economy; analyse its impact on artistic creation; examine the new space for interaction between people, machines and industries; and explain the changes that have taken place in markets and in how artworks are produced and sold.

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