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Economic crises, digitalisation and techno-cultural change: elements for prospection[1]

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Abstract

In the first place, this paper conceptually differentiates among different types of crises (financial, cyclical, regulatory and environmental) to conclude that ours is a systemic crisis, with signs of a crisis of civilisation. In the second place, it reviews the expressions of these crises within the realm of communication and culture, noting the crises in spending and advertising as well as its major peculiarities as a sector: a growing historical demand that is now stagnating circumstantially; the relevant beneficiary of technological change, now changing with increasingly intense uses; and its strong intra-sector competition and business models pending stabilisation, which has led to major uncertainties. Finally, as a prospective hypothesis, we argue that, because of communication and culture's nature as the drivers of techno-cultural change, their growing weight in the economy and their gradual eco-efficient use of resources, their expansive vocation and synergies for the entire system may make them, in themselves, factors in the recovery from the global economic crisis. However, ab initio*, those who control the value chain (operators, search engines and platforms) and who are blocking the emergence of a diverse supply are being favoured. Content generators and users will have to confront them to make the cultural system viable.*

Key words

Economic crisis, communication, culture, expenditure on culture, business model, the internet, networks, cognitive capital, techno-cultural change, concentration, pluralism.

Resum

En primer lloc es diferencia conceptualment entre els diferents tipus de crisi (financera, cíclica, de regulació i ecològica) per concloure que es tracta d'una crisi sistèmica, amb indicis de crisi civilitzatòria. En segon lloc es recorren les expressions d'aquestes crisis en la comunicació i la cultura, i es constata la crisi de la despesa i la publicitària, però també les importants peculiaritats del sector: una demanda històrica creixent que ara s'ha estancat conjunturalment; els beneficis rellevants dels canvis tecnològics, en mutació i amb uns usos cada vegada més intensos, i una forta competència intrasectorial amb els models de negoci pendents d'estabilitzar, fet que implica unes incerteses importants. Finalment, a manera d'hipòtesis prospectiva, se sosté que pel caràcter tractor en el canvi tecnocultural, el pes creixent en l'economia, l'ús ecoeficient gradual de recursos, la vocació expansiva de la cultura i la comunicació i les seves sinergies per a tot el sistema pot esdevenir un factor de sortida de la mateixa crisi econòmica global, però que ab initio *afavoreixi els que controlen la cadena de valor (operadores, cercadors i plataformes) i bloquegen l'eclosió de la diversitat de l'oferta. Els generadors de continguts i els usuaris hauran de confrontar-s'hi per fer viable el sistema cultural.*

Paraules clau

Crisi econòmica, comunicació, cultura, despesa cultural, model de negoci, internet, xarxes, capital cognitiu, canvi tecnocultural, concentració, pluralisme.

As the techno-social tools of economic, political and social agents, digital technologies have already shaken the foundations, relationships and balances of social culture and communication. Yet, the economic and financial crisis has exacerbated this in many ways.

Traditional culture industries and the media were already finding it hard to adapt to the paradigm shift in cultural customs. Yet now they have been hit hard circumstantially by the crisis in household economies, public spending and advertising, and structurally by uncertain business models, social trends and the entry of new dominant players in the value chain that have put the networks to use for now.

Hence, we should distinguish between the different types of crisis and their background before addressing the major particularities faced by the different culture and communication areas and the place they may occupy in the eventual recovery from the crisis.

1. Economic crises and systemic crisis

The general and non-circumstantial crisis that began in September 2007, which has been called the "Great Recession" (Paul Krugman), has brought together various crises that coincide and intertwine. All these crises - and conceptually, four can be distinguished – are interrelated and engender a single reality with multiple expressions, yet with cycles, periods and possibilities for different interventions.

In the first place, the most evident and immediate crisis is **financial** and is lingering in the dearth of liquidity and general access to credit alongside very timid restructuring processes in the financial world – regardless of the fact that public funds have come to the rescue with privatising measures.[2] Rewards have been showered on the irresponsibility of those who advocated ignoring the productive economy to create a fictitious and speculative economy, a casino economy that lacked any correspondence to productive capital stock and generated a fearful, volatile and socially harmful, rentier capitalism. Instead of channelling savings into investments, the banks funnelled them into financial assets that, furthermore, were nothing more than sub-products of a pyramidal chain. These *bank-ruptcies* are still not financing the productive system and household economies; they are still not investing in real economies and society. The international and Spanish financial systems are crying out for stricter regulation with taxes and charges that discourage past profligacy and nourish the public coffers.[3]

In the second place, the financial crisis has exacerbated a **classic cyclical crisis of overproduction** that is usually rooted in several factors: imbalances between the outputs of the productive investment sectors, intermediaries and consumption at a national and international scale, which all need each other yet operate with different time frames; the general imbalance between an economy's productive capacity and limited social and entrepreneurial demands; and the unequal growth among central, emerging and developing countries.

That crisis had been delayed thanks to the artificial financial bubble, with the subsequent high debt of businesses and households while they just carry on regardless. The crisis is expressed in under-consumption and cautious household spending, given poor quality jobs, declining wages and the increasing flexibilisation and deregulation of the labour market. This last, which is good for the private capitalist's profitability, is bad for the reproduction of capitalism as a whole. The recession has been even more severe in Spain's case, with its poorly diversified economy, real estate glut and specialisation in sectors such as tourism and the automotive industry, which are closely linked to household liquidity. The impact on the Spanish economy has been brutal, with unemployment close to 20% of the workforce and a rapidly growing public debt of 12% of GDP.

The third type of crisis is long-term and deeper - and conceptually more controversial - and has two dimensions: the spread (or not) of technological change and the systemic social regulation that may support it.

On the one hand, the last wave of **technological change** (computerisation, automation-communications, new materials and energies, green industry, biotechnology, organisational logistics, etc.), which began in the 1980s, brought with it a steady rise in the capital rate of return (only interrupted by brief recessions in 1990-1991 and the bursting of the dotcom financial bubble in 2001). After that, we witnessed the start of more reasonable businesses with new returns, yet confidence was lacking, since a sufficient rate of investment and accumulation for all sectors was not completely ensured.

The new technological paradigm - information, new materials, clean energies, etc. - has not achieved stable increments of productivity and returns with a productive origin and sufficient wages.[4] Whole sectors have still not approached the new technological paradigm yet and are being displaced (except for services linked to the most locally based demand) by production either from more advanced economies or conversely, from emerging economies with low labour costs. This explains the certain slowdown today in the replacement of general technology, with the resulting investment, which has meant that growing productivities, competitive with production from emerging and Third World countries with low labour costs, have not been deployed to the fullest. Multinationals themselves are investing there in search of advantages in an increasingly integrated global economy in which patents, design, branding and distribution remain in the central countries and the rest is outsourced and globalised.[5]

Furthermore, we are witnessing a parallel crisis in the systemic social regulation model (social security, labour legislation, public services, insured pensions, social rights and minimums, progressive tax systems, collective bargaining agreements, neo-corporatist tripartite pacts among employers, government and unions), which is accompanied by the resulting crisis in public and social values.

The economy's rising tide from the 1950s to the 80s - Fordism - came wrapped in the pact of the Welfare Society. Along with investment and demands for business and exports, job incomes ensured a sustained demand for consumer durables. But in the 1980s, the “Welfare Society” and “popular capitalism” were undermined, with the attendant backslide in wages of several points in GDP during the past two decades. Neo-liberalism swept the stage in the 1980s on the basis of an irresponsible scenario whose only goal was high rates of profitability and accumulation and a regressive redistribution of income, while it ignored the system's medium-term sustainability and failed to replace earlier social regulation with other regulation capable of generating sustainable demand. Cheap credit, the thinning out of states, social welfare, etc. were the recipe.

Now, with precarious employment, especially for the new generations who are not paid in relation to their knowledge, the consumer chain has broken and can no longer be fixed by overly-high levels of household debt. Nor can the import of cheap immigrant labour solve the problem, since its remittances are exported. Interestingly, with the underpayment of young or immigrant workers, the accumulation process is returning to the nineteenth century model; the global economy is equalling out on the low side.

This structural weakness in demand has meant that investment is wary of the system, slowing down in R & D and taking refuge in the financial side or in exporting capital.

And in this confusion, one could even speak of “a historic crisis in the law of value”,[6] as recently deceased philosopher Daniel Bensaid claimed, because it is hard to recognise real value added when jobs have largely been socialised and intellectual work has been massively incorporated. The detachment of the cash economy from the real economy is apparently structural.

Thus, there is no correspondence between accelerated technological advances, discrete productive applications and the very limited capacity of the investment and consumption markets to absorb and remunerate investments and offers. The current model of capitalist accumulation is in crisis. How can a new rising era be stabilised?

In the face of systemic regulatory crisis, a new social contract is lacking that would provide a feedback loop between the economy and society with a distributive social model that is sustainable on a planetary scale. A commitment to sustainable models that involve no or slowed-down growth increasingly seems necessary. And yet, what dominate discussions are more readjustments (labour and social security reform, etc.) as a short-term recipe for boosting profits.

To further complicate matters, the fourth crisis has to do with the planet, with its limited resources and species: the serious ecological crises and crisis of resources, proof of which are indisputable climate change, shortages in and higher costs of raw materials, the end of an energy model, food and water crises and others that shall not be dealt with here.

In no way is this a crisis of collapse but rather a systemic, functional and reproductive crisis with several elements that also suggest the beginning of a crisis of civilisation, to the extent in which a negative entropy is incurred with the planet - whole layers of society, dozens of countries and a continent remain outside the system’s inclusive functioning; life is becoming more precarious for those in the most precarious conditions and we no longer know which values characterise and match our civilisations.

2. Culture and media in crises: a behaviour of their own

All the crisis cycles mentioned above are reflected in the realm of communication and culture, yet in a very peculiar manner. Like culture, communication is - and this is a novelty in economic history - at the epicentre of the shift in the technological paradigm and on the path to the sustainable consumption of the future. They are a substantial part of the knowledge society.

Certainly, the circumstantial crisis and glut in advertising has affected the audiovisual and print media. Yet all this is unfolding against a “cushion” of a steadily burgeoning demand throughout the decade before the recession (and in some ways even in the midst of it) since they are the relevant beneficiaries of technological changes with new agents. In few sectors is this true.

2.1 A growing sector until 2008 and on hold

a) According to the Ministry of Culture, there were 569,800 people in Spain employed in the culture sector in 2008 (approximately 2.8% of all jobs), a figure that had grown by 13.8% over four particularly strong years in the field of arts and entertainment, “other activities” and, to a lesser extent, RTVE or public television. In contrast, the number of jobs in publishing, the press, film and video was down percentage-wise, but rising in absolute terms.

There were no fewer than 70,109 companies in 2008, 18% more than four years before, although 83% of them had no salaried employees or had fewer than 5. Revenue from cultural activities was 31.146 billion euros and intellectual property brought in 39.404 (29% from informatics and advertising). The Ministry calculated its share of GDP at 3% and of Gross Value Added (GVA) at 3.2% (Yearbook of Cultural Statistics, Ministry of Culture, 2009),[7] 38.7% of which came from the press and publishing (12.059 billion euros) and 30.3% of which came from audiovisual and multimedia (9.417 billion). None of this masks the fact that 2008 was a very bad year, 2009 even worse and 2010 unknown.

b) The global **culture industries** market, which encompasses digital cultural content, grew in the four years prior to 2008 at a yearly rate of 6.6% on average, making it one of the most dynamic markets in the global economy. In 2008, this figure reached 1.16 trillion euros.[8]

In Spain’s case, the culture’ industries business volume in 2008 was 15.858 billion euros, a growth of 3% per year between 2004 and 2008, albeit with a certain backsliding in 2008, compared with the previous year.[9] All signs point to an almost certainly worse slump in 2009 across virtually all sectors, especially those most affected by the definition of the business model - recorded music and film. At any rate, their “cushion” allows them to fare somewhat better than other sectors buffeted by the crisis.

c) In Spain, the **digital** sector is making headway fast and partially displacing earlier media. It grew 82% from 2003 to 2008, compared with 15.8% overall for culture industries. The digital content culture industry brought in 4.982 - almost 5 - billion euros in 2008. Whereas digital content accounted for 20% of the entire culture content industry in 2003, five years later this had risen to 31%, a third of the total revenue, with a growth - during an era of recession - of almost 16% compared with 2007. In 2008, the driving sectors were online advertising (up 26%), DTT and videogames - the most dynamic item in the digital subsector, which now includes free and (freemium type) micro-payment online games.

The general ICT area behaved in a similar fashion. It maintained a certain momentum during the global crisis because it incorporates innovation at a faster pace than other sectors (new technologies, falling prices, new countries and emerging markets, etc.) and is a tool for improving productivity. In Spain’s case, ICTs receive the most foreign investment, channelling up to 11% of the projects”;[12] yet they still plummeted 9% in 2009

Table 1. Cultural content industries in Spain: trends in revenue, 2003-2008 (in billions of euros and annual increments)

	2003	2008	Increment in the five-year period (%)
Publications	6.965	7.864[10]	12.9
Audiovisual (RTV)	4.677	5.526	18.1
Videogames *	465	744	60.0
Music	457	254[11]	-44.4
Film/video	1.052	860	-18.2
Online advertising	75	610	713.3
Total	13.691	15.858	**15.8**

* Not including hardware.

Source: Observatori Nacional de les Telecomunicacions i de la Societat de la Informació (National Telecommunications and Information Society Observatory) (ONTSI), 2009.

Table 2. The digital cultural content industries worldwide: trends in revenue, 2003-2008 (in billions of euros)[15]

	2003	2008	Increment in the five-year period (%)
Publications	271.478	305.998	12.7
Audiovisual (RTV)	202.293	290.721	43.7
Videogames*	18.863	83.514	342.7
Music	28.875	25.648	-11.1
Film/video	62.448	70.839	13.4
Online advertising	10.017	50.365	402.7
Total	593.974	782.086	31.6

* Not including hardware.

Source: Observatori Nacional de les Telecomunicacions i de la Societat de la Informació (National Telecommunications and Information Society Observatory) (ONTSI), 2009.

and are expected to slide 1.5% in 2010, according to the IDC consultancy firm, in contrast to global investments in technology, which grew by 2.9% in 2009.[13] There is a danger that Spain will not insist on committing to R&D or industrial challenges but rather to social adjustments whose only metaphors refer to tightening belts and parts of a pie.

The medium-term trends are clear even in the thorny world of music. According to the ASIMELEC's report,[14] online music distribution amounted to 2.586 billion euros worldwide, up 24.1% compared with 2007. In 2008, 21% of all revenue from the recording industry came from online distribution. Of course, this still does not solve the problem of stabilising artist-producer-distributor-user relational models.

At any rate, confidence is not merited in Spain's case. Alongside the advantages of its cultural tradition, its language's status in the world, the presence of a handful of large companies and many SMEs, etc., there are several hurdles facing the digital culture industry, such as an internet penetration rate below the European average, lack of a technological culture, groups distant from the new systems, weak cultural demand, etc.[15]

d) The trends in household spending reflect cultural demands that were soaring until 2008 in the case of communications (item 8 in the INE's Household Budget Survey) and saw significantly growth in the case of leisure, entertainment and culture (item 9), data which are confirmed by the most specific item in the Ministry's Yearbook.

e) However, a **strong internal reorientation** is taking place within household cultural spending in terms of intra-sector competition. Books and the press account for only 19.4% of all household expenditures on culture, while audiovisual and internet accesses and devices are the main beneficiaries. They now account for 40.7%, still a long way from cultural services (TV subscriptions, video rentals, museums, entertainment), which have now reached 30%.

Contrary to the widespread notion of a totally free culture of communication and culture, these items represent a growing expense, especially in terms of access (hardware) and enjoying specific content, to a lesser extent.

f) **Public spending** has also been growing in recent years.

Public cultural spending, especially by local and regional entities, which are the main decision makers, rose 41% in four

Table 3. Family budget survey, 1998-2008 (% of total family budget and amount, 2008)

	1998	2003	2008	Familiar budget 2008 (bill. euros)
8. Communications	1.25	2.36	3.04	36.8975
9. Leisure, entertainment and culture	6.69	6.71	6.89	16.2524

Source: Instituto Nacional de Estadística (INE), 2009

Table 4. Estimation of household expenditure on culture

	2000	2003	2007
Household expenditure on culture. (Billion euros)	9.3099	11.2513	16.6125 3.2% of household expenditure
Spending per inhabitant	232.1 euros	268.4 euros	372.2 euros

Source: Ministeri de Cultura (Ministry of Culture). *Anuari d'estadístiques culturals* (Yearbook of Cultural Statistics), 2009.

Table 5. Public cultural spending in Spain (millions of euros, % vertical and euros per inhabitant)

	2003	2007	Contribution 2007	€ per inhabitant, 2007
State Admin.	795.3	990.8	15%	22.3
Regional	1,217.8	1,976.3	30%	44.4
Local/Provincial	2,645.8	3,613.6	55%	81.3
Total	4,659	6,581		148

Source: Ministeri de Cultura (Ministry of Culture). *Anuari d'estadístiques culturals* (Yearbook of Cultural Statistics), 2009.

years. Public spending (6.581 billion) is only a quarter of what households spend on culture (16.612 billion) and, although it grew by 41% in four years, it did so more slowly than household spending (47%), which is why the device and subscriber culture is making inroads. This does not include RTVE's public services (about 1.2 billion between subsidies and debt in 2008).

Public spending on culture definitely stagnated or fell in 2008 and above all, in 2009. The forecast for 2010 envisages spending to be trimmed back between 10% and 20% in almost all institutions.

2.2. Communication and ecological crisis

As for the **ecological crisis and the crisis in resources**, because of the nature of the new century's culture and communication as services with limited media use, they are profiting from a type of sustainable production that is very frugal with material resources, compared with their benefits. A few raw materials are exceptions, such as columbite, from which tantalum (used in almost all electronic devices) is extracted. The role of newspapers and books (large-scale devourers of forests) is partially giving way to more intangible supports such as e-books.

The unlimited production of content with the decreasing consumption of finite resources and limitless virtual storage for a sporadic immaterial use point to a greater eco-efficiency and more sustainable use in line with today's challenges, in addition to the multiplier effects on the value of human capital.

2.3 The crisis of overproduction in communication

The circumstantial crisis or cyclical crisis of overproduction crisis is real, but would not be very troubling if it weren't for the uncertainties of intra-industry competition and business models that will have to be stabilised.

The cyclical crisis is expressed in at least two ways. First, by a **glut** of channels, media, programmes, rebroadcast content and online newspapers, etc., whose costs the market cannot absorb. And, secondly, with the somewhat more than circumstantial crisis of a central form of payment for the media system, particularly, **advertising**.

Subsidies and the rising debt of regional RTVs are responsible for the partial recovery of the audiovisual system and despite budget cuts in 2009 and 2010, their offer has grown (new television channels such as those in Murcia and Asturias, or second channels). To this should be added the RTVE's forced subsidy model.

Media workers have been affected. The "2009 Annual Report on the Journalism Profession" by the Madrid Press Association (APM) noted 5,155 journalists in the official records of the unemployed and 6668 job-seeking journalists.

2.3.1. The glut in content

The glut in content is evident in all the media; demand would have grown even more without the crisis, although never at the brutal pace of supply. At any rate, it was also clear that uses would be complementary in some cases and substitutional in others, within the limits of how much time is available each day.

In effect, new consumption habits have arisen at a certain speed: the analogue audience has been replaced by the generalist free-to-air DTT audience and complemented by internet radio, yet eroded by theme and subscriber channels; tradition-

Table 6. Structure of the audience by medium, indicator and period
(% of the population older than 14 years old)

	1998	2003	2008
Newspapers	36.9	39.7	42.1
Magazines	53.2	53.1	53.3
Radio	53.5	57.9	53.1
Television	91.2	90.7	88.5

Source: General Media Study. AIMC

Table 7. Trends in penetration. Latest wave, February-November 2009

	1997	2007	Feb-Nov 2009
Newspapers	37.7	41.3	39.8
Supplements	32.4	24.9	21.9
Magazines	54.7	49.4	51.3
Radio	55.0	54.7	55.3
TV	90.7	88.7	89.0
Internet	0.9	36.2	34.3

Source: EGM: Twelve-month period, February to November 2009.

al radio has been complemented by internet radio; traditional paper reading formats have been complemented or replaced by on-line reading; listening to CDs has been replaced by downloads or streaming, etc., and yet in most cases this is not paid for.

The media's stabilisation during the decade, the slight improvement in a few media (radio and magazines) during the crisis and the penetration of the internet are some of the data that stand out.

In **television's** case, there is an unsustainable free-to-air TV on offer of more than 1300 channels, a decision made by successive governments in an exercise of irresponsibility. The vast majority of them are local, in addition to online channels, but there are six private groups competing for free-to-air DTT at a national level.

This is joined by the slowdown in subscription contracts for digital channels, ADSL and cable, despite telecom operators' offers; losses in private regional models already up and running; waning audiences for public regional channels and their growing deficits; and local TV in non-primetime hours that faces fierce competition from national chains. And a TV company that was flourishing – RTVE - was stripped to dress up private competition in an unprecedented exercise in privatising public space and media concentration.

There are no problems in television demand, although its distribution is changing; demand is growing. According to Impulsa's Yearbook, TV consumption in 2008 had already reached 3 hours and 47 minutes. Despite the loss of young viewers and falling percentages of viewers, audience consumption is growing, as is revenue, although redistributed among more agents, especially when theme stations are gaining ground.

Whereas television revenue was 4.359 billion euros in 2003 (31% of which corresponded to subscriber TV - satellite and cable), in 2008 it was 5.64 billion euros, with subscriber TV accounting for 41%.[16]

In the case of newspapers, print newspaper reading grew in the decade and was joined by 6.4 million digital press readers - a social success (representing nearly half of all print newspaper readers), but an economic hole because of the lack of revenue. Even with a slight growth in circulation during the decade, the entrance of all newspapers online and the advertising crisis are problems.

As can be seen, there are no problems in demand, yet there is a problem of paid demand and unmet preferences in demand. Therein also lies the dilemma for journalist organisations: being present means a deficit, but not being present means disappearing.

2.3.2. Declining advertising

Revenue from advertising has not been able to respond to the glut in television, which dilutes its effectiveness, nor to the side effects caused by the crisis in the consumer goods and services sector as a whole, with a consequent drop in advertising investment as the expendable expense that it is for most companies in times of recession. The press has been hardest hit in this area.

In fact, many years before today's deterioration of the conventional advertising model, advertisers had turned their attention towards unconventional media, which already accounted for 52.4% of all advertisement spend in 2008, although these unconventional media haven't been spared by the recent slump either. Conventional media fell by 11.1% and unconventional media by 4% (Infoadex 2009).

For their part, the press fell by 20% in 2008 (especially affecting the free press), magazines by 14.5% and TV by 11%. In turn, the internet grew by 26%, although it still only accounted for the modest figure of 619 million euros. In the case of unconventional media, some fell slightly and others, such as gifts, fairs, sports sponsorship, corporate publications and catalogues, practically went under to the benefit of more personalised or cheaper types (Infoadex 2009). 2009 was even worse, with an average decline in conventional media of 26.6% in the first nine months, which especially affected TV and the press.[17]

Boosting audiences, the prices of the pay press or television subscriptions is no solution to this situation, because household economies are also going through hard times.

2.3.3. The lack of under-consumption

The household tendency to under-consume that is typical of crises is turned on its head in communication: communicative opulence during a full-blown crisis and low-cost use (only connection costs) in computing fields, in sharing and access to platforms and social networks.

In other words, in the knowledge era household economies are defending themselves from the risk of under-consumption by varying their focal points towards intra-social communication (face to face or online), non-paid content or content used free on the internet. This last measure connects two underlying trends: the unlimited technical potential for the cheap extension of knowledge, with a trend to zero-marginal costs, and old and new generations' questioning of the capitalist accumulation of knowledge. We should not forget that the quality of modern human capital is precisely the result of the pact of the systemic social regulation model (described earlier in this article) and which is being questioned today.

Of course, there is a lot of junk in the free social cyberspace, yet this is compounded by the infra-information of the unpaid press media and even the breakdown of professional values in the sectarian and doctrinaire mass media.

In any case, subscriber media should not complain too loudly about the medium term. Their experience of the intensification of multiple accesses and communications is collective training that is preparation for future remunerated consumption in terms of advertising and payment, although the culture industries and the media will have to win customers over by differentiating their quality and professionalism from what can be obtained free on the internet. It is not a useless time for the future valuation of capital; it is a time to prepare for a future explosion.

At any rate, a phenomenon that has hardly been studied up to now must be taken into account. Culture enterprises would now find new markets in non-finalist demand and intermediate services from institutions and companies in all areas (health and transport, etc.) because audiovisuals and communication are now strategic functions in almost all sectors' production. The creation of social networks with economic themes, relational wikis for managing reports or for teaching, educational videogames in different professions, museum multimedia, etc., has been a new open market for several years now and is growing exponentially.

The same applies to the new, already active music markets: especially concerts and secondary uses (mobile, audiovisuals, etc.).

2.4. Communication and financial crisis

The financial situation that started in 2007 has slowed down the restructuring of the media system that was in progress, although the mandatory actions to be carried out by TV (replacement of analogue by digital TV over time) were an unavoidable challenge, in comparison with the slow road hesitatingly taken by the press.

The media's indebtedness due to their adaptation to technological changes has been aggravated by the financial crisis within a context of uncertainty about their own business models, making profitability and, of course, credit returns impossible.

The financialization of Spanish media companies had already taken place, which meant financial capital was in a strong position to drive communication, formerly linked closely to individuals or families. The explosion in the stock market and entrance of financial capital (be it foreign or Spanish investment banks or pension fund managers) in its share capital "kicked off a process in which the financial prevailed over the productive", as Núria Almiron has said, which would only encourage short-term gains, their vulnerability, the reduction of social responsibility, over-valuation in the capital market at the start and a disproportionate collapse of real assets later.[18] The foreign presence is represented by Mediaset (Berlusconi), Bertelsmann, Agostini and Televisa, etc., as another counterpoint.

The result of all this (market problems, financialization, financial problems and regulatory compliance for DTT investment) was the basis for the internal financial capital pressure on the Zapatero government in two directions: to sweep RTVE from the advertising market and to authorise the concentration of companies that has already started within the realm of TV (the absorption of Sogecable by Telecinco, the discussions between Imagina and Antena3/Planeta) as a forerunner of those that may take place in other areas. Especially vulnerable was Sogecable's owner Prisa, whose sale of assets, especially its interests in local television, was not enough to cover its huge debts, and MediaPro, committed to an aggressive investment policy.

2.5. Crisis of business models, cognitive capitalism and socio-cultural regulation

We are facing a techno-cultural change. In the midst of the digitalisation process or shift in technological paradigm, the media are undergoing the as yet to be stabilised process of on-going innovation in uses, contents and technologies.

The result of the combination of the internet, wireless communication, digital media and new software has made it possible for interactive horizontal networks to connect the local and global at any time[19] and they are joined by new vertical developments specialised professionally or by tastes (music, theatre, etc..), mixed formats, rapidly changing uses and user involvement in generating and transmitting content, etc.; some users even generate nanomedia.

Indeed, and contrary to what has been suggested, amateur proposals cannot dominate the field. Traditional media and the culture industries, historical owners of know-how, have already reacted to highlight this by reconciling old and new media. Yet, in the meantime, the emergence of the internet and user practices (P2P sharing, YouTube, Google, networks, etc.) have called all business models into question.

This breaks through all known barriers in terms of the amount of information being processed, access, interactive relationships beyond geography, possible narratives, forms of knowledge and time and space coordinates, etc., yet, since it is a time of transition, traditional uses are not disappearing and new forms of remunerating social uses, i.e. the productive-reproductive model for attending to them, have not yet stabilised.

2.5.1. Culture industries, the media and the internet

The past decade's technical change has brought with it the integrated management of multimedia content, mobile terminals and users, burgeoning bandwidth, increasingly intelligent benefits and growing interactivity. And the results are apparent: the gradual separation between infrastructures and services offered with open connectivity systems, the creation of services over other services, the digitalisation of content, the difficulty of launching new, unprofitable services, falling costs,[20] globalisation and the emergence of a new value chain in which telecom operators are ubiquitous.

As regards content, the arts and culture industry have found a new means of expression, but the media, adapting from multi-purpose journalism to formats with multiple windows opened up to them (online publication or broadcasting, telephone, platform), the opportunity for contact in any area within product definition takes precedence, for the time being, without remunerative markets.[21] Economies of scale will be combined with network and club economies that give value to the products themselves, while each network has a different value according to its use.

Francisco Campos was absolutely right when he said of the first phase of the crisis that "media firms were hit hard by the global financial economic crisis when they were in the midst of changing growth with some structural repercussions, which turned into swift transitional change, without yet becoming transformational change",[22] i.e. with constant changes but not many substantial disruptive innovations or ruptures in business models or in the commercial system.

However, there may be other hypotheses for the final stage of what is expected to be a slow recovery from the crisis. There will be times of profound change, risk and exploiting opportunities to displace the competition; of maturing formulas for stabilising several business models in the value chain, which will result in processes of concentration and consolidation (or the marginalisation) of institutions such as public service entities, and will put the very nature of intangible capital to the test in one sense (socialisation of knowledge) or another (expropriation).

2.5.2 The tricky combination of reinventing business models, respect for public space and distribution in the value chain

Business models have not been defined, nor do they offer clear results. Added to the uncertainty over the general economic crisis is the fact that internet activities have yet to reinvent user relations.

The Ministry of Industry, Tourism and Trade[23] foresees that the sale of music based on streaming and its financing through affordable monthly subscriptions or advertising will be of interest and that, as a new way of listening to music, it will also stimulate music sales via the internet and mobile phones.

At any rate, there are many models of profitability being tried out and, as J. C. de Miguel said (2008), some of them will eventually establish themselves. An attempt at a taxonomy would be advisable:

a) Mediating advertising

- Advertising or sites that allow music to be listened to free in exchange for viewing ads (Lala, MySpace, LastFM and Pandora) or their inclusion in catch-up TV services (TV on demand and re-runs) of the chain's editors; and every conceivable combination in terms of amounts of added revenue (advertising, downloads, subscriptions, merchandising and concert tickets) such as Spotify's.
- Advertising combined with fees and pay per view;
- Copyright owners' distribution agreements with shared-use video or TV programme platforms to access part of the advertising revenue;

b) Subscriptions

- Subscriptions (Sky in Britain or downloadable online press as in the US).
- Premium access for listening to music on the computer or mobile phone (iPhone and Android).

c) Pay

- Pre-paid downloads (from Google and Facebook).
- Free access to written information, with paid access after a certain number of articles have been read free of charge (The Financial Times only allows free access to up to ten articles per month).
- Pay per download or unit (iTunes, e-music) or discounted rates to listen to streaming (0.00097 euros per song in the UK) or different fees for professional or personal downloads (SGAE).
- Payments of one euro to listen to music for 24 hours.

d) Others

- Returns to user for services (e.g., for new subscriptions, etc)

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In addition to this, the internal competition within each industry and among industries is already fierce and, with respect to the internet, is capitalised almost entirely by oligopolistic business operators, search engines and platforms: the first two being collectors of fees and metering and the second two wholesale advertisers.[24]

In the future, the readjustment in the distribution of revenue will depend as much on the pressure on household and public consumption spending as on the readjustment between the current beneficiaries of the value chain (vendors of hardware and systems, transport operators, key search engines, preferential servers and platforms, all of which are penetrating each other's areas) and content producers - today's big losers – who, rather than negotiating their positions in the chain, are curiously lashing out against users who are fed up with not benefitting from lower prices.

It is surprising to see that the old press and flow model (Flichy) is gradually adapting and incorporating a certain localisation of the national press; whereas the ease of freely capturing editorial readers makes it more difficult to recognise the different units offered by publishers in the market.

In any case, the adaptation of advertising, the spread of flat rates (as a minimum base) and, based on this, a metered economy according to a quota of uses (Premium) or units (box office) may be the direction in which the combination of models will go.

2.5.3. New public space, cognitive capital and socio-cultural regulation

Nowadays, the opportunity for democratisation that comes from the interoperability of content, instantaneity, mobility, interactivity and usability is usually expressed as a communication overload from a large storehouse that makes it difficult to select cultural, entertainment and news content of interest and clashes with visibility, differential, creativity, consistent quality, reliability and contrasting sources, etc.

Although it is also true that "entering cyberspace involves accepting the decentralisation of information, the de-synchronisation of activities and dematerialisation of exchanges," it is more difficult to accept that it is "impossible [for cyberspace] to be concentrated in the hands of an industrial elite/media" or that "it does not accept attachment to any form of power, be it geographical, economic or political." In fact, the exact opposite is true.[25]

Since "the global network of interconnections and the capacity to exchange information in real time (...) requires new forms of social coexistence, founded on the equal, free and independent relationship of its own members",[26] communication systems are part of power and unequal societies. The reality is that the global institutions that are experts in communication and knowledge management wish to turn the new system into a central area for this new accumulation and make the notion that the new system only depends on the use made of it seem naive. And this is happening regardless of the great social opportunity for a hypothetical and conflictive leap that would benefit the democratisation of knowledge and power.

We may be dealing with two fields that will be differentiating themselves in social communication: intra-social communication with a general repertory and communication for society, whether dominated by advertising or of a selective nature, paid-for, innovative, decisional, status-based, etc.

For their part, European institutions are taking measures in two directions. On the one hand, sensitive to pressure from the culture industry, they have already committed to persecuting downloads, whether by penalising servers or users as each state sees fit. On the other hand, they seek to facilitate agreements among the major players to establish common platforms for new business.[27] Their preferences are not on the side of public space.

3. By way of a prospective general hypothesis

Communication and culture have been hard hit by the recession and financial crisis. However, they are expected to come out of it earlier and in better shape than other sectors, thanks to the sustained trend in demand and social disposition towards techno-cultural change. Nonetheless, in the medium term it is costly to channel structural mutations when implementing the new paradigm, the techno-cultural change itself, intra-sector readjustment with competing hegemonies, uncertain business models and the redefinition of a new socio-cultural regulation around stakeholders, rules and copyright.

In any case, in the long run and in terms of underlying trends, as a sector communication and culture have in their favour their nature as the driver of techno-cultural change, their tendency to take off (with a growing weight in the economy and demand), their gradual eco-efficient use of material resources and their desire to expand culture and communication as adaptive enzymes for society as a whole, with the resulting synergies for the entire system.

All this makes the communication and culture sector one of the elements that may contribute to the general exit from the crisis in the accumulation and profitability of the system and a relevant beneficiary in a possible recovery, which is expected to be slow and rampant. This hypothesis cannot overlook the sector's lack of autonomy and that also, *ab initio*, those who control the value chain (operators, search engines, preferential servers, aggregators and platforms) and today are blocking the emergence of a diverse supply will continue to be favoured. Generators of content and users will have to confront them to make the cultural system viable.

We shall see whether the conflict is settled in a new stage of cultural and communicational development or whether the opposite will be true. It will depend on the stakeholders, the social initiative for proposals and resistance and on public policies.[28]

Notes

1 Seminar given at the 2nd Congress of the Spanish Communication Research Association. Malaga February 3-5, 2010.

2 Jean-Claude Trichet, President of the European Central Bank, reported that approximately 10 trillion euros of public aid has been made available to private banks around the world. In the European Union's case, the measures to support banks equalled 31% of the EU's GDP and in Spain's case, 22% of the Spanish GDP (one trillion euros), since the aid authorised by the ECB came to 220 billion euros, although only a small part has been used, given the Spanish banks' relatively healthy state. *El País* (10-11-09).

3 See Torres, J; Garzón, A. "La crisis financiera: guía para entenderla y explicarla", ATTAC España, Madrid, 2009.

4 As for the long waves theory, the hypothesis should be posed of the simultaneous overthrust between declining technologies and the coincidence with the expansion of other new ones, which makes it difficult to know whether their economic effects in terms of productivities, profitability and accumulation are in a stage of decline from an earlier long wave or from another, new rising wave.

5 See Albarracín, D. *Capitalismo tardío: ¿Quo Vadis? Problemas contemporáneos para la teoría de las ondas largas.* A reinterpretation of Ernest Mandel's long-waves theory. <http://www.vientosur.info/documentos/Quo%20Vadis.pdf>

6 Bensaid, D. "Y después de Keynes qué?" *Viento Sur*, no. 106. November 2009, p. 86.

7 Not by 4%, as has been claimed.

8 According to PricewaterhouseCoopers (2008), "Global Entertainment and Media Outlook: 2008-2012", <http://kc3.pwc.es/local/es/kc3/publicaciones.nsf/V1/69A3DBAAE5284834C12574EA003CE883/$FILE/informe%20GEMO%202008-2012_%20Spain%20final.pdf>

9 See *Informe anual de los contenidos digitales en España 2008,* Ministeri d'Indústria, Turisme i Comerç i l'Observatori Nacional de les TLC i SI (Ministry of Industry, Tourism and Trade and the National Telecommunications and Information Society Observatory), Madrid, 2009, pp. 12-15.

10 Of the 321.72 billion euros, 4% of the total corresponds to e-books, according to the Ministry of Culture. "El Libro y las Nuevas Tecnologías. El Libro Electrónico". September 2009

11 A total of 29.2 billion, 11.5% of which corresponded to online and mobile sales, aside from the 309 million from live music.

12 Francisco Ros, Secretary of State for Telecommunications and the Information Society, also commented that the ICT sector accounted for up to 40% of the growth in the EU's productivity rate, with R&D investments representing a third. (Presentation of Fundación Teléfonica's report entitled "La SI en España 2009". Agencias 22-12-09).

13 <http://www.idg.es/dealerworld/IDC-pone-fecha-a-la-recuperacion-del-sector-TIC-finales-de-2010-/seccion-mercado/noticia-88975>

14 Asimelec. "Informe 2009 de la industria de contenidos digitales". Consulted 15-01-2010. <http://www.asimelec.es/media/Contenidos%20digitales/II%20Informe%20CONTENIDOS%20DIGITALES.pdf>

15 The ONTSI understands the "Digital Content Industry" in Spain to be made up of digital audiovisual services, digital video, film and music, interactive gameware (or video games), digital publications and portals.

16 Guallarte, C.; Granger, J. R. "El proceso de constitución del sector de contenidos digitales en España", *Telos*, no. 69. October-December 2006, pp. 85-86.

17 In effect, Digital Plus accounted for 1.541 billon – a certain stagnation - while cable with 347 million, IP with 185 million and mobile with 16.2 million euros were the pay formulas that grew the most, according to the Annual Report by the Telecommunications Market Commission (2009)

18 All media fell significantly. Film plummeted by 40%, magazines and Sunday supplements by 36%, TV by 28%, with even worse figures for regional television stations (-31.5%), newspapers by 27.1%, foreign advertising by 21%, radio by 18% and subscriber theme channels by 17.3%. In turn, the internet only grew 3.1% (Infoadex, Avances 2009).

19 Almiron, N. "La financiarización de los grupos de comunicación en España: el caso del grupo Prisa". Minutes from the 1st National Congress of the ULEPICC- Spain, 2009 , ISBN 84-690-1432-3.

20 Castells, M. "Comunicación y poder", Madrid, Alianza editorial, 2009, p. 88. The book uses the term "mass self-communication" in which the interpersonal and the mass overlap. It is not a broad enough term to cover the combination of interactive dissemination over the internet by many to many, point-to-point communication, mass communication and searches in virtual storage.

21 See Rodriguez Canfrac, P. "Tendencias en la industria de contenidos", *Telos*, núm. 69, octubre-desembre 2006, p. 70-72.

22 This year, British channels (BBC, ITV, BT and Channel 4, etc.) launched a common platform on IPTV for access to their programmes on the internet with interactive management options, low-demand video and accesses to social networks.

23 Campos, F. "La gestión de la transición del cambio mediático". In: Campos, F. (ed.), *ob. cit.*

24 Ministeri d'Indústria (ministry of industry) "Informe anual de contenidos digitales en España 2009", Madrid, <http://www.red.es/media/registrados/200911/1258625905407.pdf?aceptacion=e5a36a11167fa0fd8499c55b1da8a9db>

25 Telefónica aims to charge Google – the dominant search engine, which controls 70% of all online advertising – for storing its services and applications on its network.

26 See Pericot, J. "El ágora digital". In: *Informe de la comunicació a Catalunya 2005-2006*, Bellaterra, UAB-INCOM, 2007.

27 See Pericot, J. idem.

28 On the one hand, Viviane Redding announced an agreement between communication service firms such as iTunes, Nokia and Amazon, and recording studios such as EMI and Universal as well as several associations that manage authors' rights to generate internet music platforms, including a management model for authors' rights at a European scale. In the case of Spain, which is following in the wake of the British websites FindAnyFilm and Filmotec.com (Egeda) (which has a catalogue of some 1,200 Spanish films), the Spanish culture industry (including Promusicae with its five million songs) and the major US studios are preparing to launch a portal as a content aggregator in which it is easy to search and link to the online shops and portals of the studios themselves for paid downloads of both music and films in Spanish (national as well as American). (El País. Ramón Muñoz 11-10-09)

29 Elsewhere we have chronicled the social resistance and cultural policies needed for a landscape of techno-cultural change in terms of cultural diversity. See Bustamante, E.; Zallo, R. "Conclusiones: las regiones ante las industrias culturales". In: Bustamante, E. (coord.) *Cultura y comunicación para el siglo XXI. Diagnóstico y políticas públicas*. Cabildo de Tenerife-Ideco 2007, pp. 263; and Zallo, R. "Internet y cambios en el sistema cultural y comunicativo: revisar las políticas territoriales". Lecture at the meeting entitled "Las industrias culturales audiovisuales e Internet" in TEA- Santa Cruz de Tenerife 15-01-10. Pending publication.

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