

Lurralde : invest. espac.	35	2012	p: 53-66	ISSN 0211-5891	ISSN 1697-3070 (e)
---------------------------	----	------	----------	----------------	--------------------

# THEORETICAL REFLECTIONS ON THE RURAL CYBORGICAL DEVELOPMENT IN SPAIN

## (BETWEEN THE UTOPIA AND THE SOCIAL IMAGINARIES)

Juan R. Coca & Jesús A. Valero Matas

Universidad de Valladolid

Departamento de Sociología y Trabajo Social

E.U. de Educación

Campus de la Yutera, Palencia, España

juancoca@soc.uva.es/valeroma@soc.uva.es

**Abstract:** In this paper a reflection on the Spanish rural development is made. The starting point is the traditional approach of rural development and it will end with the cyborgical development. In this way, a new conception to analyze and study this kind of progress is laid down. Furthermore, a formalization of the concept of the social imaginary is set up; something which has never been done before.

**Key words:** Technoscience, Society, Rurality, Cyborg, Social Imaginary.

**Resumen:** En este artículo se hace una reflexión sobre el desarrollo rural español. Se parte una aproximación tradicional al desarrollo rural y se finaliza con el desarrollo cibórgico del mismo. En este sentido, se expone una nueva concepción que permite analizar y estudiar este progreso. Además, se desarrolla una formalización del concepto de imaginario social; algo que no había sido hecho hasta ahora.

**Palabras clave:** Tecnociencia, sociedad, ruralidad, cyborg, imaginario social.

**Résumé:** Dans cet article, une réflexion sur le développement rural espagnol est faite. Le point de départ est l'approche traditionnelle du développement rural et elle prendra fin avec le développement cyborgical. De cette façon, une nouvelle conception pour analyser et étudier ce genre de progrès est prévue. Par ailleurs, une formalisation du concept de l'imaginaire social est mis en place, quelque chose qui n'a jamais été fait auparavant.

**Mots clés:** technoscience, société, ruralité, Cyborg, imaginaire social.

## 1 Introduction

Throughout human thought history technology has been studied with the idea that it merely transformed reality. With time, and above all nowadays, technology has acquired a much greater importance than it was supposed to have and it has been proved that it holds a very tight (bidirectional) link with ethical, political, social, epistemological, religious matters, among others. Therefore, the number of people who have decided to contemplate this is increasing.

This is caused by realizing that, as García Bacca said, we breathe technology from the time we wake up until the time we go to sleep. Therefore, the development of human civilizations is parallel to technical development. In this sense, the first deep thoughts on technology, made by Ortega (1982), Heidegger (1994) or Ellul (1960), accentuate the link of the anthropological with the technological. Ortega y Gasset himself considered the human being as a *Homo faber*.

With the Industrial Revolution and thanks to capitalism, a great push on the technological development was made and "western" civilization commenced a new paradigm: fordism. In it, a production and consuming type was developed, based on repeatability, in the great social mass with purchasing capacity<sup>1</sup>. Later, already in the 20<sup>th</sup> century, technology started to be seen as deeply linked to scientific development, being in the mid seventies the origin of the concept of *technoscience*.

Nowadays consumption and production have been modified, creating imaginary marketing mechanisms based on the obtaining, by the consumer, of products understood as new

1 Sastre, Cayo; *McMundo*, Los libros del lince, Madrid.

experiences (for instance, slogans such as “An “organic” experience” or “Ideas for life” or “The Possibilities are Infinite” or “Oh What a Feeling”) do not mention the product but the experience linked to it). Furthermore, the economic system is part of what has been called a globalization/diversification process, which, as Castellás repeatedly<sup>2</sup> asserts, works in a unitary and worldwide manner thanks to information and communication technology, as well as to the liberalization and deregulation processes.

The technological advances of the 20<sup>th</sup> century have created a social mutation at an extraordinary level. The new energy sources, the synthesis of new materials with unforeseen properties, laser technology or biotechnology have invaded every single aspect of human life, causing the great social system to be organized, like never before, based on the technological activity. At the same time, the technological activity had never had such a notorious impact on the structure of this great system<sup>3</sup>.

Therefore, it can be asserted, as it had been already set out previously<sup>4</sup>, that the social system heads, unstoppable, towards a new (bio)technological<sup>5</sup> paradigm in which human self-transformation becomes unusually important. This new age, controlled by the possibilities of human change, creates a series of images, metaphors or imaginaries which allow us to discern the course that the near future of the social systems more (bio)technologized may take. In this sense, human development has been conditioned, both in a positive and negative sense, by the technological development in such a way that it would be difficult to understand our own lives without considering some (bio)technological device.

Rural areas, the main object of this analysis, are not far from these new processes of technological re-configuration. In fact, rural areas are changing their appearance caused by a greater technological penetration, although more slowly compared to urban areas. In this sense, it can be stated that technologies, generally speaking, provide a series of potential benefits that could end up changing the meaning of development in rural areas.

The new communicational devices and the energetic alternatives, as well as its production processes, offer a set of new development possibilities that need to be analyzed and evaluated. Nonetheless, as is well known, (bio)technologies provide great benefits, although they also bring great risks which need to be managed so they do not cause serious social problems due to their use. In this sense, current (bio)technologies may become the implementation of the existing possibilities and/or the creation of new ones, or may create processes of invisibility of the rural world, of dissolution of the identity of this world or even the destruction of it. It will be necessary, therefore, to understand the basic proposals of these new processes in order to be able to develop the proper political mechanisms that will minimize the potential risks and maximize the possible future benefits. This will be the main target of this paper.

## 2 Rural development and new technologies

The concept of development (or progress) has always been closely linked to the economic sphere, so the most developed areas were those developing greater economic activity

<sup>2</sup> Castellás, Manuel; *La sociedad red*, Alianza, Madrid, 2000; *La galaxia Internet. Reflexiones sobre Internet, empresa y sociedad*, Areté, Barcelona, 2001 o *Comunicación y poder*, Alianza, Madrid, 2009.

<sup>3</sup> Quintanilla, Miguel Ángel; *Tecnología: Un enfoque filosófico y otros ensayos de filosofía de la tecnología*, FCE, México, 2005.

<sup>4</sup> Coca, Juan R. y Valero Matas, Jesús A. “(BIO)Technological Images about Human Self-construction on Spain Context: A Preliminar Study”, *Studies in Sociology of Science*, 1/1: 58-66.

<sup>5</sup> The term (bio)technolgy refers to all the technology capable of transforming all that is alive (human and non human). Regarding this, the (bio)technology field includes biotechnology.

and, therefore, larger numbers of workers in that area were involved. Following this, rural development (RD) has also been influenced by this economicist vision. For this reason, it is common to find reports, papers, books, etc. referring to RD that are focused on economy policies, on economic promotion factors, etc.

European RD policies<sup>6</sup>, as it has been asserted above, have also been influenced by this hyperfocalised perspective on the economy. For this reason, in the sixties, when the common agricultural policy was established, the main objectives of RD were financing the modernization of agricultural exploitations and farms and financing price support and the markets of agricultural products in order to maintain the income of those people working in the rural world.

Later, at the end of the eighties, the situation changed due to the bad results that were obtained. The reason for the failure was that people in the rural world developed diversified economic activities, making the European policy, exclusively centered on the agriculture, inefficient. This fact could have a possible explanation in the erroneous conception of the rural. The rural environment has been usually conceived as an agro-dependent environment. Nevertheless, the rural environmental society itself has proved to be different from conceptual conventionalisms. This fact makes the defining the rural environment to be not easily achievable, since nowadays there are population nuclei which do not present great differences with regards to the population in cities and vice versa. After the CPA, the LEADER program was developed in Europe with a more transversal view and less focused on agricultural development, conditioned by the initial failure of the CPA.

In the 21<sup>st</sup> century the European Union has initiated the "Agenda 20002, which again seems to have a sector approach focusing on the agriculture and restricting diversification policies. This approach clashes with one of the main assumptions of the Cork Declaration, which explicitly supports the diversification of economic and social activities.

The European Conference on RD held in Salzburg from 12<sup>th</sup> to 14<sup>th</sup> November 2003, a reference in the RD policies field, seems not to be effective in taking the baton from the Cork Declaration, since it does not go for the rural environment diversification in a broad sense and so clearly as the first one did. This Conference keeps on the relatively linear track of the LEADER program and it seems not to be capable of foreseeing the future and the possible social needs that the rural population may have.

This fact may have a causal explanation in, as it was initially said, the hypertrophy of economism and the consideration that there is just one possible model for progress. This approach is not new, professor Boaventura de Sousa Santos has been defending it in several works concerning scientific activity and the authors of this paper share this view<sup>7</sup>. This thinker shows that after the 16<sup>th</sup> century a rational positioning was forged which gave such preponderance to science that it ended up being the only possible rationality. In fact, the scientific rationality model created at that age, apart from being global is also totalitarian, to the extent that it denies the rational character of all kinds of knowledge that do not share its epistemological principles and methodological rules.

Re-interpreting professor Santos and linking it to RD, it is asserted that the current promotion lines developed by the higher European institutions assume, somehow, the paradigm that

---

6 In order to talk about RD policies, this paper will focus on Elena Sarraceno's text "La Experiencia Europea de Desarrollo Rural y su Utilidad Para el Contexto Latinoamericano". In: *Red Latinoamericana de educación rural*. Accesible en: <http://www.red-ler.org/experiencia-europea-desarrollo-rural-pdf>. Document visited on 22nd June 2011.

7 Santos, B. de Sousa; *El milenio huérfano*, Trotta, Madrid, 2005; *Crítica de la razón indolente*, Desclée de Brouwer, Bilbao, 2003; entre otros.

has prevailed for the last decades wherein the classic progress in the so-called “west” is the only possible one. For this reason, it is considered that the rural world must focus on developing an economic activity that is assumed to be the right one for its own development. However there are epistemological principles coming from sociological knowledge and even from the knowledge obtained when applying common sense which provide a different approach and which could be important enough to be taken into account. In this sense, as it will be later seen, the knowledge of social imaginaries, of group perceptions of rural population could provide a knowledge that, to date, has not been analyzed.

The problem encountered now is that there are few “real” diversified political approaches wherein the members of the rural society may have development options outside the prevailing paradigm. In this sense, Armas Quintá<sup>8</sup> shows the relative contradiction that is currently taking place among those researching RD processes. For instance, Izquierdo Vallina<sup>9</sup> considers that the revitalization of rural economy will found in diversification. However, he later states that the administration should intervene in order to defend traditional agriculture as part of the process of preserving the landscape and natural heritage. Another example can be found in Molinero Hernando's<sup>10</sup> text, who, quoting Lázaro Araujo, shows that this author asserts it is not possible to maintain that Spanish RD still depends on agricultural development while he later states that agriculture, generically, is outlined as a key activity within integral RD processes.

The authors of this paper consider that the above-mentioned opinions seem to stress the need for agriculture to be an intrinsic part of the production process of the rural world. It is also considered that it does not inevitably have to be like that, since nowadays there are new production processes that do not need the mediation of agriculture or livestock breeding. Furthermore, it is not known whether the people who could potentially end up living in the rural world really want to focus their work in the activities classically considered to be those of that field.

Everything seems to indicate that new technologies may provide a *bonus* to every human activity, which was unknown until not that long ago. However, the penetration of information and communication new technologies (ICT) is not as intense as in cities. This fact is making the RD harsh if the restructuring is not considered within the current economic system<sup>11</sup>. In fact, Grimes<sup>12</sup> states that the main places where information innovation and production are taking place are not in rural areas, but in urban areas.

This fact is linked to the cultural change stated by Castells<sup>13</sup>, where there is a global prevailing culture that makes rural societies assume their own RD as a process of assimilating urban development. Contrary to this, the existing RD policies (as it has been made public in the Salzburg Declaration) look to pursue the promotion of RD connected with a certain conception of the rural environment as part of the natural environment. Therefore, the concepts of sustainability or ecology are inevitably linked to the current RD. In other words, rural areas have been turned, in a way, into a sort of goddess of nature where the social imaginary of

---

8 Armas Quintá, Francisco José; *Sociedade da información e desenvolvemento rural. Análise de novos procesos sociais e territoriais em rexións periféricas. O caso de Galicia* [CD], Servizo de Publicacións Universidade de Santiago, Santiago de Compostela, 2009.

9 Izquierdo Vallina, Jaime; *Manual para agentes de desarrollo rural*, Mundiprensa, Madrid, 2002.

10 Molinero Hernando, Fernando; “Nuevas funciones de los espacios rurales”, *Estudios de Juventud*, 48: 33-43, 2000.

11 Grimes, Seamos; “Rural areas in the information society: diminishing distance or increasing learning capacity?”, *Journal of Rural Studies*, 16: 13-21, 2000.

12 Grimes, 2000.

13 Castells, 2009.

the immutable, the static, or, if the expression is allowed, the eternal, soaks the processes (political, social, economic, educative, etc) that are currently being created.

The problem that seems to arise is that rural areas are far from *Telepolis*<sup>14</sup>. RD is turning around the current social development, since it does not assume the current social cyborgization. That is to say, nowadays everybody can be considered a cyborg if it is assumed that a technological device is needed to mediate in something as common as communication. Therefore, from a simple communicational point of view, people can be considered, as it will be later exposed, as if they were communicational cyborgs<sup>15</sup>.

This puritan imaginary, already mentioned above, does not accept that rural societies can be part of this new process of cyborgization. This means that, given the different penetration degrees of ICT, social differences and economic imbalances are being created between the rural world and the urban one<sup>16</sup>. However, authors such as Tolón Becerra have a more optimistic view and consider that the current globalization processes are contributing to the reduction of the cultural gap between the rural world and the urban one.

Just considering the demographic characteristics of the rural environment shown in the *White Paper on Agriculture and Rural Development*<sup>17</sup>, it can be asserted that there are three main aspects in the current configuration of the Spanish rural world. First, there is a progressive aging, so currently more than 20% of the rural population is past retirement age. Second, there is a masculinization of the society since there is a greater number of men than women; this data contrast with the general data for the Spanish population, where there are 96 men for every 100 women. The third characteristic of this population is the negative population growth rate. This data seem to contrast, indirectly, with what Tolón Becerra asserts, since the people who have more problems using ICT<sup>18</sup>, is due mainly to lack of interest (see chart).

Miranda de Larra<sup>19</sup> shows that the patterns of Internet usage in older people are mainly based on using electronic mail (63.9%), searching for information about products and services (61.6%) and getting in touch with the different organizations of the Administration (44.3%). This leads one to think that there could be certain difficulties in achieving the goal of the Internet as a device capable of reducing the geographical barriers that reduce the possibilities of RD, since a large proportion of the rural world population (the older people) will use the Internet in a limited fashion. However, with time and thanks to an adaptation to these new technologies, it is possible that currently non-existing needs will be created, bringing with them greater possibilities for rural population nuclei thanks to the Internet. Considering the current value of using mobile phones compared to other technological devices, it is seen that mobile phones are the most valued by the Elder, since 36.2% consider it necessary for their lives, compared to 26.3% for computers or 13% for the Internet. These data allow one to discern that in the rural world, which is more elderly, the difficulties of establishing a technological equity are notable (table I).

---

14 Echeverría, Javier; *Telepolis*, Destino, Barcelona, 1994.

15 Cfr. Sádaba, Igor; *Cyborg*, Península, Barcelona, 2009.

16 Cfr. Macía Arce, Xosé Carlos; "Consideraciones teóricas sobre el concepto de calidad de vida en la sociedad de la información", *Teoría de la Educación. Educación y Cultura en la Sociedad de la Información*, 10/2: 246-262, 2009.

17 *Libro Blanco de la Agricultura y del Desarrollo Rural*, Ministerio de Agricultura, Pesca y Alimentación, Madrid, 2003 Accesible en: <http://www.libroblancoagricultura.com/>

18 Miranda de Larra, Rocío; *Los Mayores en la Sociedad de la Información: situación actual y retos de futuro*. Fundación Auna. Madrid, 2004. Accesible en: [http://www.financialtech-mag.com/\\_docum/07\\_Documento.pdf](http://www.financialtech-mag.com/_docum/07_Documento.pdf) Acceso: 18-06-2011.

19 Miranda de Larra 2004.

Table I

<b>Reasons for people over 65 not to use the Internet. 2003, %</b>	
Lack of interest.	85,63%
Does not have access.	37,42%
Too expensive.	14,43%
Concerned about security.	8,15%
No time	7,91%
Other reasons	1,79%
Does not know/No response	2,99%

**Source: Miranda de Larra 2004.**

### 3 The social imaginary

The philosopher Cornelius Castoriadis asserts that the imaginary appropriates reality, perceptions and representations, combining, linking, transforming and building a world beyond the logic of objective reality<sup>20</sup>. His ideas have achieved such a great level of permeation that a large number of contemporary authors, who will be quoted in this section, study or use it. An example is Charles Taylor, who refers to social imaginaries saying that he understand social imaginary is much wider and deeper than the intellectual constructions which people may create when thinking on the social reality from the distance. Also he rather think in the way they imagine their social existence, the type of relations they keep ones with the others, the sort of things happening between them, the expectations commonly fulfilled and the deeper normative images and ideas underlying those expectations<sup>21</sup>.

It is indeed not difficult to discern the clear relation between the concept of imaginary and imagination, social relationships, expectations and normativity; that is to say, considering that within that concept all factors making the social system possible are comprised. In fact, Castoriadis was already aware that "society is essentially a magma of social imaginary meanings which gives meaning to collective and individual life. Therefore, socialization is the mere entrance, and the working, in this magma established in social meanings"<sup>22</sup>. Certainly, according to this author, the imaginary "is incessant and essential undetermined (social-historical and psychical) creation of figures-forms-images, from which it can just be considered "something". What we call "reality" and "rationality" are its works<sup>23</sup>.

This statement means going a step further, since it supports a, if it is allowed, *imaginary socialization*, where our society is a human construction that is updated and permanently configured. For this reason, the relationship between subjects and society becomes so

20 Castoriadis, Cornelius; *Hecho y por hacer*, Eudeba, Buenos Aires, 1998.

21 Taylor, Charles; *Modern Social Imaginaries*, Duke University Press, NY, 2004; & Taylor, C. "Cultures of Democracy and Citizen Efficacy", *Public Culture*, Winter 19(1), 2007: 117-150;

22 Castoriadis, Cornelius; *Figuras de lo pensable*, Frónesis-Cátedra-Universitat València, València: 246, 1999.

23 Castoriadis, Cornelius, *La institución imaginaria de la sociedad*, Tusquets, Barcelona: 10, 1983.

important in developing social imaginaries. According to Castoriadis<sup>24</sup>, social imaginaries form a magma of meanings that configure what is understood as reality for a given environment.

For Beraín<sup>25</sup>, the main imaginary social meanings (in plural) can be determined and can be found in the basis of our actions: these would be classified as “the gods”, “the progress”, “the development”, “the self-preservation”, etc. In each society and each culture there would be a radical imaginary, either a god or a flag. Castoradis, in fact, divides social imaginaries into two different and dependent significance planes: the primary or central, which are *ex nihilo* creations, imaginary institutions which do not depend of its own idea to be referenced, such as God, the family or the State. The secondary ones, which are created and depend on the primary ones, such as the idea of citizen cannot be conceived without the idea of State. Thus, these representations are considered instrumental, playing a mere role of reproducing primary ones.

Some researchers consider social imaginaries to be found outside the field of the visible and that, although they form the basis of social reality, they cannot be reached nor determined. For Castoriadis, society is a magma of magmas, from which a great many of elements can be extracted without ever totally re-forming it, not even ideally, that is to say, when determining its “incarnations” in the form of institutions/meanings, such as *party* or *goods*. However, the social imaginary would exist as “a do/represent the historical-social”<sup>26</sup>. In this sense, Sanchez Capdequi<sup>27</sup> has stated that the task of unraveling the keys of the imaginary is an impossible mission.

In spite of the vagueness of the conceptualization of this concept and the problems arising from it, the authors of the present work consider that the notion of social imaginary is very helpful for the sociological study as a methodological tool. Among the main research lines in this field that show a true effort to implement the notion, the model of Mr. Juan Luis Pintos de Cea Naharro is worth pointing out in order to unveil the discursive opacity through the relevance/opacity metacode. According to this sociologist<sup>28</sup>, **social imaginaries (SI) are socially built schemes (SBS)**, which allow us to perceive, explain and intervene in what is understood as reality for every different system. These imaginaries operate as a metacode in socially different systems, inside a specific “means”(money, belief, power, etc) for every system, through a **relevance/opacity (R/O) code** and create shapes and ways acting as realities.

24 Castoriadis, 1983.

25 Beraín, Josetxo; *Modernidades en disputa*, Anthropos, Barcelona, 2005.

26 Beraín, 2005: 158.

27 Pintos, Juan Luis; *Los imaginarios sociales. La nueva construcción de la realidad social*, Bilbao, Instituto Fe y Secularidad/Sal Terrae, Bilbao 1995a. Pintos, Juan Luis; “Orden social e imaginarios sociales (Una propuesta de investigación)”, *Papers*, 45: 101-127, 1995b. Pintos, Juan Luis; “Construyendo realidad(es): los Imaginarios Sociales”, *Realidad. Revista del Cono Sur de Psicología Social y Política*, 1: 7-24, 2001a. “Apuntes para un concepto operativo de Imaginarios Sociales”, en L. Alburquerque y R. Iglesia (ed.), *Sobre los imaginarios urbanos*, Buenos Aires, FADU-UBA: 67-103, 2001b. Pintos, Juan Luis; “El metacódigo relevancia/opacidad en la construcción sistémica de las realidades”, *RIPS (Revista de Investigaciones Políticas y Sociológicas)*, 2/1-2: 21-34, 2003. Pintos, Juan Luis; “Inclusión/exclusión. Los Imaginarios Sociales de un proceso de construcción social”, *Sémata. Ciencias sociales y humanidades*, 16: 17-52, 2004. Pintos, Juan Luis; “Comunicación, construcción de la realidad e imaginarios sociales”, *Utopía y Praxis Latinoamericana*, 10/29 (abril-junio): 37-65, 2005. Pintos, Juan Luis; “Imaginarios y medios de comunicación”. En: Bouzada Fernández, X. (coord.) *Cultura e novas tecnoloxías*, Consello da Cultura Galega, Santiago de Compostela (España): 21-44, 2006a. Pintos, Juan Luis; “Comunicación, construcción de realidad e imaginarios”. En: VV.AA. *Proyectar imaginarios*, IECO-Universidad Nacional de Colombia-Sociedad Cultural La Balsa, Bogotá, Colombia: 23-66, 2006b.

28 Nemiche, M.; *Un modelo sistémico de evolución social dual*, Servei de Publicacions – Universitat de València, València, 2004.



On the other hand, they have different functions, which are: *producing a stable image in changing social relations, creating continuity perceptions in discontinuous experiences, providing global explanations of fragmentary phenomena and allowing the intervention in processes built from different approaches*. That is to say, social imaginaries reduce the complexity through stabilization, global explanation and allow the intervention of social processes.

Within a systematic frame, Pintos makes his methodology stating that SI are built and rebuilt in three different fields: *that of the differentiated specific system (politics, law, religion, science, etc); that of the organizations which specify the system institutions (governments, banks, churches, academies, etc) and that of interactions between individuals within the system environment*. This means that there is a space/time sphere where they take place.

SI show different procedures: *critic of the "proofs", building of the "observable", mechanisms activated to the level of first or second order observations and by applying the relevance/opacity code*. At the same time, these have *space-time references, semantics, references to approaches of building realities and opacities*.

Starting from this conceptual specification developed by professor Pintos, a proposal of formalization has been made which gathers different approaches in order to further specify the concept of SI and implanting its operativity. It is considered that a formalization including different approaches can be established, which will allow approaching it and analyzing social imaginaries through a formal concretion of the SI conceptualization.

As a first step it is considered that *socially built schemes (SBS)* are a variable of the function of the *social imaginary (SI)* where it is present.

$$ESC = f(SI)$$

It is considered that ESC refers to the perceptive or psychosocial process of a given *social group*. In this point, professor Pinto's proposal is changed slightly, confining the SI to a certain *social group* and not to the whole society. This is due to the fact that a society S may contain different social groups  $\{S_1, S_2, \dots, S_n\}$  which present different social imaginaries, and even, opposite ones, where  $IS = 0$  and even  $IS = \emptyset$ . For this reason, the present approach of SI starts from a microsociological approach, which will widen up based on what the development of a certain SI allows.

Following Nemiche<sup>29</sup> (2004) somewhat, regarding the process of systemic self-organization,  $x$  is considered an indeterminate variable that conditions human behavior. Variable  $x$  denoting a set or stable state changes according to the context:  $x = \{x_1, x_2, \dots, x_n\}$ . SI are considered to have variable  $x$  which will depend on the function of dynamic transformation  $f$ , so  $IS = f(x)$ .

Given that SI are codified based on the informational relevance/opacity (R/O) metacode, if it is considered that  $y$  is a certain informational discourse, this will be implemented by R/O based on the probability of R to appear regarding O. That metafunctional metacode is explained based on the probability function  $P(A, N)$ , where A is a determined informational vector and N the systematic environment of that information (system, subsystem or "fraction"-social system<sup>30</sup>), whose probability of appearing will be maximized versus another probability function  $P(B, N)$ . So  $P(A, N) = \max_B P(B, N)$  which means that A will have a

29 "Fraction"-social system refers to the set of social subsystems which share, in a given moment, the same IS.

30 Gandy, Matthew; "Cyborg Urbanization: Complexity and Monstrosity in the Contemporary City", *International Journal of Urban and Regional Research*, 29/1: 26-49, 2005. Gandy, Matthew; "Cyborg Urbanization: Theorizing Water and Urban Infrastructure". Full Research Report. ESRC End of Award Report, R000271228. Swindon: ESRC, 2007. Available in: <http://dx.doi.org/10.1111/j.1468-2427.2005.00568.x>. Access: 22 de Junio de 2011.

greater informational relevance than B, which will be in an opacity position in SBS. That is to say, A is some piece of information capable of changing the referred systemic environment, N, (set of peers, social set, social subsystem, a system, etc.) based on a certain probability for A to appear in N. In other words, if some information is repeated *ad nauseam*, whether it is true or not, it will condition the development of the systemic environment or fraction of it affected by it. Therefore, when encountering two different pieces of information A and B, if one of those is more recognizable than the other, both pieces of information will be under the same conditions (so to speak) when the probability of vector B appearing in N is maximized. Otherwise, it is foreseeable that A will always appear because its probability of substantive significance in N is greater than for B.

What has been exposed above notably modifies professor Juan Luis Pintos' proposal since the present proposal considers that SI will be the set and variable states (according to the context) through the dynamic function of transformation  $f$ . therefore, the same SI will be a variable depending on  $x$  and not the other way round, as Pintos proposes. Therefore, it is here stated that  $SBS = x$ , which allows to assert that the stability or not of the SI will be given by the social group where it is produced and it not independent of it.

In this way, every consideration on the fact that a SI endorses the stability of  $x$  could be rejected. How could it be possible to understand that the SI of the well-off social groups have been maintained all over these years considering that the temporal changes have changed people and devices? If the SI has changed and has been adapting itself to the evolutionary processes of the social group where it is inserted, it would look like as if the SI were something semi-static which establishes the evolution or lack thereof of a certain social (sub)system. In this case, the evolution would not influence the adaptation of the system or subsystem to the environment, but the SI themselves, which is not coherent within the theory. To finish with the formalization of the concept of social imaginary, it can be asserted that every SI depends on a space-time (S/T) function. This space-time function is also conditioned by the development and implementation of the SI:  $SI \ll S/T$

$$SI = \langle f(x), R/O, S/T \rangle$$

Replacing:

$$SBS = \langle f(f(x), R/O, S/T) \rangle$$

In this case, everything seems to indicate that the perceptions of a given social group are a function of the state of transformative stability, of the probabilities of a certain piece of information appearing and of the contextualization of it in a given space-time. The relevance of  $x$  and its (des)stabilization according to  $f$  may make the SI lose their viability or may increase their degree of social influence. All this is due to the fact that if  $f$  increases its value, the social range increases and this brings (based on  $SI \ll S/T$ ) an increase on the space-time are of the SI. On the basis of what has been exposed, social imaginaries become psychic structures that configure and build our reality. Therefore, not assuming, as it was said at the beginning, these aspects of a certain rural population (that is to say, the social imaginaries which configure social schemes) implies not understanding its needs and failing to develop appropriate RD policies.

Nowadays, as it has been seen at the start of this paper, RD walks between two imaginary poles: the conservative imaginary and the cyborgical imaginary. In the first case, the conservative imaginary takes shape as a result of an inalterable conception of nature and the rural as an identification of it. However, there is also a cyborgical imaginary that assumes that the rural world can be changed and does not precisely assimilate the rural environment with inalterable nature. These considerations of the cyborgical imaginary are also linked

to the new contemporary theorizations on *cyborg urbanization*<sup>31</sup> developed, specially, by Matthew Gandy.

#### 4 Cyborg, Telepolis and Urbanization

Before exposing the reasons that make possible the understanding of rural development (RD) in terms of the cyborgization process, it is advisable to know what cyborg refers. The term cyborg comes from English *cyber* + *organism* and it has been commonly used to design a creature made of organic elements and mechanical devices. The incorporation of mechanical elements in a creature has been usually made in order to improve the capacities of the organic part through the use of technology.

The most typical examples of the *cyborg* imaginary are the astronaut or the pilot of a fighter, whose interfaces (helmet, suit and, specially, visors) are designed to increase their perception of the environment processing information and presenting the results overprinted before their eyes. Transsexuals taking hormones and who have implanted certain devices in order to modify their morphology and to adapt it to the sex they prefer. It can also be mentioned, to a greater or lesser degree, people with cochlear implants, wearing glasses, with hip prosthesis, with mammary implants, etc.

The current fact that we all live so conditioned by the different communication artefactual systems is obliging us to use, more and more, ICT. For this reason Igor Sádaba<sup>32</sup> states that it is possible to consider that a cyborg does not restrict to a humane-machine structure, but that the cyborg can be, apart from a machine, communicational, being understood as the human linked to a technological device which allows communication with other people. In this context, the best-known example of this new type of cyborg is that of having a digital analogous one in *Second Life* or communicating with his group of friends through a social network. The people who develop this kind of activities are cyborgs in the sense that a layer of electronically produced information mediates communication with others and is perceived during the communication as its real environment.

If as humans we are our bodies because we feel and process (think) through it, as cyborgs, we are also our electronic body: the machines we use to modify our perception (computer, game console, glasses or visors) and the avatars we project of ourselves. Therefore, it can be said that virtual reality is an *increased reality* that we access thanks to electronic "extensions" of our body.

The cyborgical world, thus, configures itself as future normativity where we all want to tend both at a social level and at an economic one. The political aim of increasing the number of people with access to the Internet is a good example of this. Furthermore, it is also desired that Spanish companies have a greater visibility in the Internet, since it is considered that the Internet provides a potential economic profit that allows consolidating and implementing the current economic system. However, the machine is repetitive and lacks singularity. For this reason, as it will be exposed, cyborgization may also remove the identity, the difference, the special and singular. Having reached this point, it is clear that this conception of economic development also affects RD in such a way that this is conditioned, in a way, by a cyborgical perception of RD (Cyborgical Rural Development, CRD). CRD is created within the current producing system, which keeps (in the words of Castells) a dynamic of centralization and dispersion tightly linked to the evolution of the rural world. In other words, the type of process which will be promoted in the rural areas, whether its incorporation in the global world, risking the loss of identity or to promote processes that enhance dispersive and unique identity first.

31 Sádaba, 2009.

32 Cfr. Gandy, 2005.

Regarding this, it can be mentioned the considerations exposed by Matthew, who asserts that from a neo-organicist approach there are two different perspectives of the urban: the homeostatic, where the urban is a complex closely ordered system and the, so to speak, mechanistic conception, where the body-city link is conceived around the idea of the indeterminacy of the spatial forms and the "thought space". This approach can be redirected to the rural field, since, as the authors of this work think, this duality is also produced in the other environment. It should be remembered that the current social dynamic, and the rural world is no stranger to this process, heads for a dissolution of the subject, toward a society in which the autonomy of the self is conditioned by a sphere of the humane, which is highly restricted and illusory. In this context, the body-environment interface is conceived as a non-Cartesian space where the distinction between body and mind, or between virtual and material is evolving more and more towards a greater blurriness<sup>33</sup>.

This can be exemplified in ICT, enabling geographic dispersion and the simultaneous integration of many activities, but also creating invisibility and neutralization processes of the particular characteristics of each zone. Furthermore, the unique access conditions to these resources have led to the centralization of the most advanced users in the most advanced telecommunication centers<sup>34</sup>. In this sense, it can be mentioned the ongoing communication processes in which the global networks of interconnected multimedia companies organize themselves in strategic alliances<sup>35</sup>. However, Castells continues, "these networks organize themselves in dominant nodes. A few megacorporations form the backbone of the global network of media networks. Their control is based on their capacity to connect everywhere with media organization at the local and national levels and then use them. Conversely, media companies at the national and regional level increasingly rely on alliances with these megacorporations in order to achieve corporate expansion. Although capital and production are globalized, the contents of the media adapts to the local culture and the diversity of the fragmented audiences. Therefore, globalization and diversification come together, as it happens in other sectors"<sup>36</sup>.

This example of media is analogous to what is happening in other system sectors, but it has been considered adequate to bring it up here, since the use of ICT, especially the Internet, goes through these economic processes of globalization and diversification. The technology works at a regional level using the globalization/diversification metacode, which is similar to that of dissolution/singularity. That is to say, technologies may generate processes of dissolving the personality of places, although it may also reduce the problematic situation in which the rural world finds itself.

For instance, solar farms, fields with wind turbines, pylons, crops of agrofuels, business parks, mobile phones antennae, etc. are very similar regardless of the place where they are. However, Joan Nogué does not deny "the possibility that, even in this kind of landscape one can detect a sense of place thanks to its inhabitants, because it is true that this is created, not only by the physical and architectural environment, but also by the social relations that occur in it or by an equal concrete event, and sometimes ephemeral"<sup>37</sup>.

On the other hand, it can be seen that ICT is a device capable of improving the management of any company, it allows the rural world entrepreneurs to "jump" the existing barriers or

33 Castells, Manuel; *The informational city*, Blackwell, Londres, 1989.

34 Castells, 2009.

35 Castells, 2009: 110.

36 Nogué, Joan; "Paisaxe e sentido de lugar". En: Díaz-Fierros Viqueira, Francisco y López Silvestre, Federico (Coords.) *Olladas críticas sobre a paisaxe*, Consello da Cultura Galega, Santiago de Compostela: 207-227, 2009.

37 Grimes, 2000.

geographical limitations allowing them to market their products anywhere in the world with Internet access. Furthermore, access to the Internet enables the creation of new ideas, business opportunities and business networking, etc.

## 5 ICT in RD

Information and communication technologies as devices capable of opportunities for RD implicitly mean creating innovative processes products and managing systems. The great problem here is, as Grimes<sup>38</sup> states, that the rural world is not one in which higher levels of innovation are occurring, quite the opposite. However, Vachón considers that the potential of a given territory or collectivity is not to be found solely by limiting oneself to the rules of the game developed by the great global economic circles. The development of a territory is in their ability to invent and promote a dynamic local company that allows for the innovation processes and the implementation of projects; this will later bring about the generation of autonomy spaces<sup>3</sup>.

Regarding this, Armas Quintá states the following: "it must be pointed out that both innovation and pluriactivity and diversification of economic activities are decisive influences on the processes of economic and social revitalization of rural spaces. Innovation can be materialized in the creation of new products and services, implementation of new types of business management, new methods and forms of organization, and so on. But there are problems in this respect, since not all individuals and collectivities are optimistic about innovation; success or failure of innovations depend on the cultural environment and the economic structures of a given territory"<sup>39</sup>.

Therefore, for innovation to materialize in rural areas, it is necessary to transform both the social perceptions of the citizens in this area and the local development policies for the rural world. In this sense, Calvo Palomares and Lerma Montero, from a highly critical perspective, conclude in their work that the current local Spanish development is strongly subsidized, this creates a dependency which brings a real lack of commitment by the local corporations with employment and training at the local level<sup>40</sup>. This leads to serious problems in terms of innovation, since innovation processes require a strong and relatively long training processes to establish the necessary educational foundation so the ideas may emerge without the necessity of dirigisme.

Possibly, this problem could be minimized if on-line training activities were carried out. However, as Armas Quintá<sup>41</sup> points out well, it is necessary to meet certain conditions for the strategy to implement the RD by using ICT success. The first and most obvious is the need for an adequate telecommunication infrastructure. The second involves the need to have qualified labor force that knows how to take advantage of ICT both at a level of managing knowledge, marketing, advertising and developing business. Finally, it is essential to act at the social imaginary level to avoid encountering unexpected social resistance that minimizes any kind of action conducive to the development of ICT in the rural environment. However, as Dehesa Romero points out, it is vital to make the effort to develop ICT within the rural world, because those people, companies and countries unable to adapt to the current technological change will remain marginalized, or if they are not, will have fewer chances of

---

38 Vachón, Bernard; *El desarrollo territorial. Teoría y práctica*, CeCodet, Oviedo, 2001.

39 Armas Quintá, 2009.

40 Calvo Palomares, Ricard y Lerma Montero, Ignasi; "Desarrollo local: ¿clientelismo subvencionado? Conclusiones críticas al modelo actual", *Acciones e Investigaciones Sociales*, 25: 5-22, 2008.

41 Dehesa Romero, Guillermo de la "¿Consolidará Galicia a su convergencia real no século XXI?", *Revista Galega de Economía*, 9/1: 7-24, 2000.

developing<sup>42</sup>.

Considering the data shown in the *White Paper on Agricultural and Rural Development*, it can be noticed that those regions currently marginalized in the Spanish territory are confined to the rural world. In fact, 69% of municipalities and 21% of the population did not have access to broadband Internet in 2003. In this context it can also be mentioned the "Rural Internet" program promoted by the Spanish Ministry of Agriculture, by the Spanish Ministry of Industry and by the Spanish Federation of Municipalities and Provinces. This program, born in 2003, was intended to connect a large number of people in the rural environment. The program has invested 34.8 million euros in installing 2,964 telecentres, which are added those who came under regional or local administrations. In total, there are 5,400 villages and towns connected to Internet thanks to this initiative, which means that about 600,000 people have been potentially benefited. However, once the economic cost has been transferred to the regional and local administrations, the number of connected towns has notably decreased<sup>4</sup>.

Finally, regarding the negative aspects which could derive from using ICT as promoters of processes of identity dissolution, it is considered that the only realistic option is that of assuming this problem and remain vigilant in the event of possible conflicts between the population and technophilic environmental excesses. Other options could negatively interfere in the development of these population areas.

---

42 Gómez, Rosalío; "El Internet rural se apaga", *El País*, 17/01/2009. Accesible en: [http://www.elpais.com/articulo/sociedad/Internet/rural/apaga/elpepisc/20090117elpepisc\\_2/Tes](http://www.elpais.com/articulo/sociedad/Internet/rural/apaga/elpepisc/20090117elpepisc_2/Tes) Access: 25th June 2011. junio de 2011.