ASPECTS OF THE 'NETWORK' CONCEPT IN RELATION TO THE REFLEXIVE MODERNITY THEORY AND THE EVOLUTION OF NEW TECHNOLOGIES

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The machine was the emblem of the industrial society. The gadget is the emblem of the post-industrial society.

—Jean Baudriallard, *The Consumer Society: Myths and Structures*

Abstract*: This study examines the link between reflexive modernity theory and the 'network' concept, related to the emergence phenomenon that characterizes new communication and information technologies. The purpose of this paper is to explore its implications in contemporary sociology and to give a balanced frame of understanding.*

Keywords*: reflexive modernity theory, network society, ITCs & society, hypermodernity.*

Introduction

The new forms and environments of communication, as well as the devices that facilitate the presence of social actors in the network are the new challenge in understanding contemporary times. If nearly three decades ago societies and social actors began to go through massive changes in perception and behaviour with the invention of the World Wide Web, the present is increasingly shaped by innovations and the continuous evolution of new technologies and devices. All these lead to the intensification of social interactions and the multiplication of convergence spaces, as well as the amount of data and information. The online duplication of identity, and, implicitly, of the social status, the translation of off-line social groups and networks into online and vice versa, the connection of social actors in a network form, content creation, knowledge production, digital community formation, digital divide, e-commerce, social mobilization, civic engagement and governance, digital journalism and the revival of investigative journalism are multiple implications and transformations generated by the Internet.

The study of networks (Castells, *The Network Society*; van Dijk; Newman et al.) becomes an important sociological pillar in understanding the changes of today's society, with the new forms and structures that ensure its maintenance and functionality coming as a response and attempt to solve the crises of the last century. The turn of the social structures paradigm (implicitly of the forms that interactions take in and between the substructures) aims at the transition from a mass society to a network society (Castells, *The Network Society*; van Dijk),

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a characteristic of the reflexive modernity of the current times (Giddens, *The Consequences of Modernity*; Beck et al.).

The Reflexive Modernity Theory

Since the 1980s, Beck and Giddens have been trying to define the current society by referring spatially and temporally to the overcoming period of the industrialization and globalization phenomena as a risky one ("risk society"). The authors identify a series of challenges of the period, such as the loss of self-standing institutions and the emergence of variability, the dissolution of classical communities, the instability of personal relationships, the high mobility, the constant building and reconstruction of identity, the transformation of social problems into individual problems, and they lay the foundations of the *reflexive modernity theory*.

Starting from the concept of *reflexive monitoring of action* (*The Consequences of Modernity* 36) as a characteristic of all individuals, Giddens states that the "reflexivity of modern social life consists in the fact that social practices are constantly examined and reformed in the light of incoming information about those very practices, thus constitutively altering their character" (38). Thus, the present society is in a permanent process of destruction and reorganization, and globalization as "the intensification of world-wide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa" (64) is one of the decisive factors of these social changes.

Beck et al. state that "reflexive modernity is the modernization of modern society" (1). The theorists question the conceptualization of the first modernity as a basis for comprehension of what a "second modernity" or "reflexive modernity" means. In the first modernity, in their sense, a model of the 'container'-society prevails, where society is equivalent to the nation-state, and social institutions are centralized (Beck et al. 1). This type is characterized by a safe state of welfare, mass parties, and class and family culture - as a stable nucleus - institutions that are supported, but also support, a social security network resulting from the industrial regularization, full-time employment and a lifelong career. At the same time, the very clear ordering of social life is intelligible communicated to the members through a series of clear dichotomies: "between society and nature, between established knowledge and simple faith and between members of society and those outside it" (Beck et al. 2). The authors consider that all these defining principles are overcome in reflexive modernity, and the difficulty of defining the term is drawn precisely from the fact that social change in the first type of society takes place in a stable system of coordinates. The issues they face are how to make reasonable decisions about the future under the auspices of such uncertainty, as social structures change, but also concepts, categories and conceptions of change itself. Therefore, reflexive modernity produces a series of meta-changes (Beck et al. 3-4): "a new form of capitalism, a new form of work, a new global order, a new society, a new form of nature, a new type of subjectivity, a new everyday life, a new type of state". All these forms of the new, the authors say, must become the main concern of investigating social sciences, because the change does not only concern social structures but, implicitly, social sciences.

Returning to Giddens, he considers that the dynamism of modernity is drawn from three dominant sources that are connected (*The Consequences of Modernity* 53): *the separation of time and space*, *the development of disembedding mechanisms*, and *the reflexive appropriation of knowledge*. The first source refers to space-time spacing on an undefined stretch. The second explains how social relationships are reorganized along ample time-space distances, by uprooting social activities from localized contexts. These disembedding mechanisms are symbolic tokens and expert systems involving trust and reflective knowledge. Reflective

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knowledge is the result of the filtering of four factors: *differential power* (the different failure of knowledge by individuals and groups), *the role of values* (connecting to a mutual network of influence of values and empirical knowledge), *the impact of unintended consequences* (life-related knowledge social transcending the intentions of those who apply them for transformation), and *the circulation of social knowledge in a double hermeneutics* (knowledge applied reflexively to the reproduction conditions of the systems alters the pre-established circumstances). The last dominant of the dynamism of modernity refers to the systematic production of knowledge of the social life as an integral part of the reproduction of the system that divides the social life from the limitations of tradition.

Beck et al. (6-7) also make a conceptual delimitation of the challenges and dynamics of reflexive modernity given by the following processes: globalization that changes the foundations of society and society as a nation state, the intensification of individualization (due to the gradual loss of the legitimacy of collective life patterns), flexible hiring practices, and political awareness of the ecological crisis by diminishing resources.

Both Giddens and Beck criticize the concept of post-modernity, arguing that the present society is radicalized rather than post-modern. The phenomenon of radicalization changes the self-standing character of institutions in a variable and produced by free choice, and determines the multiplication of community forms leading to *individual emancipation* (Beck et al. 15). The transition to new forms of community (such as youth culture or fundamentalist ethnic groups) from *non-traditional communities*, however, causes uncertainty in the socialization process and creates imbalances in *social integration*.

Information and communication technologies (ICTs) and globalization

The question is whether the present society, through the very reflexivity concept able to generate the necessary systemic in-put and the ferment of innovation, can offer new models, instruments and practices for a new social and cultural organization. In this scientific context, but also in all social practices where the Internet has established itself, does this 'tool' become the necessary instrument, invoked by both Giddens and Beck, able to create reflexive mechanisms that can respond quickly to the various crises and uncertainties of society? How can the Internet address the current issues through its technological and systemic complexity, which in turn can generate new transgressions to risk and disorder? How are the ICTs positioned in the matrix of factors that determine social change? Is the formation of social networks after a new (dis)organization in the reflexive society, intertwined by the network society? Are these feasible alternatives available to old social institutions?

Technology is usually defined as the use of scientific knowledge to fix procedures for efficiency in a reproducible manner. It evolves through interaction with other dimensions of society, but it has its own dynamics, linked to the conditions of scientific discovery, technological innovation, and societal transmission. Castells (*The Network Society*) regards technology as a material culture, a fundamental index of structure and social change. On the other hand, however, Beck (1992) draws attention to the contribution of technology, to the creation of a *risk society*, which is impregnated from the economic sector to the ecological environment.

From the perspective of temporal logic of ICT, the last three decades have been marked by successive innovations of devices and applications, as well as concentration and consolidation of major players in the new communication and information technologies market, therefore the industry dynamics are one of the most visible. Firstly, the Internet crosses from the functionalist web 1.0 to web 2.0 paradigm. Thus are created the premises for the emergence

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of social networks that have resisted or not the market logic of blogs (from Myspace and Hi5, to Facebook, Twitter, Instagram, Pinterest, Tumblr, etc.), video platforms with user-generated content (YouTube), but also to web sites that considerably improve their relationship with the user, reinforcing the idea of feed-back. The web has transformed itself from one of the impression into one of the expression, the creation and production of content being now the prize of every social actor. Although launching the concept of web 2.0 was to be recognized by the initiator as a spin of PR and marketing, to save the market and consolidate new businesses, we cannot deny the series of benefits brought by improving the web. Secondly, with regard to devices, there are the recitals of a new type of user, the mobile user who can connect to the internet and, implicitly, the new communication and information media through wireless devices (smart phones or tablets). The creation of a new segment, that of portable devices that allow the user to perform operations similar to those on the smartphone, raises a just question that deserves to find the answer in further research: will the social actors who will wear such gadgets be permanently online? Can the critics of today's society still make a harsh separation of our social life between online and offline, as these two become convergent and almost inseparable?

Regarding the role of innovation, Fârte seeks the answer in the adaptive cycles of any social system using C. S. Holling's classification: i) exploitation, ii) conservation, iii) unblocking, iv) reorganization. In the first level of growth, the system increases its capital, multiplies its evolutionary choices and exploits much of the developmental opportunities available, including the management of relationships. The conservation stage is characterized by the emergence and consolidation of rules aimed to guarantee an increase in yield and autonomy degree. The third stage, the liberation of the system's energies, can lead to the elimination of some jobs and the channelling of work for better use. At this stage, "innovations and new markets", "winners and losers" appear. "The drama of creative destruction," says Fârte, "is all the more so as the pace of adaptive cycles is more and more alert. The duration of the competitive advantage decreases continuously, with social actors being forced to innovate permanently so as not to risk disappearing from the market or being isolated from community life" (61). The final stage, the reorganization, strengthens innovations that have passed the recession and can be the basis of a new adaptive cycle. The creative destruction phase of capital development is a concept that requires an explanation of technological innovations as an effect of the design, the distances between the stages of development of social structures generated by platforms (networks), but also of the distances between the stages of production of information and recreation through applications and devices accelerating and folding; it also distorts the logical idea of space and time through the phase contraction. In other words, change becomes a permanent challenge for social actors who need to internalize new technologies as quickly and in directly proportion to their conversion and upgrading rate by producers. The social actors have to manage their own social and economic knowledge capital if they want to be visible in this world governed by information transmission and by the adjacent devices.

The digital networks

Newman et al. summarize the development of networks theories: Euler's graph theory (1736) stated following the dilemma of crossing the Hõnigsberg bridge, in which the notions of links and nods are introduced. The contributions of Solomonoff and Rapoport (1951) and Erdos and Renyi (1960) regarding the networks as the medium of propagation of different modes of influence (information and diseases in particular); the introduction of the notion that graphs are "stochastic objects" with an incidental and presumably distribution – models that can be

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statistically analysed, but cannot be anticipated with precision (Erdos and Renyi, 1969, Rapoport 1963). Frigyges Karinthy's story (1912) which was later to lay the foundations of what today bears the name of "the effect of the small world" (or the six-degree separation theory) – which was the subject of research for scholars like Milgram and Travers (1969), Pool and Kochen (1978). In the same area lies Price's analysis (1965) of the scientific quotations and the introduction of the "in-degree" and "out-degree" concepts and the power-law tail between them.

The most relevant contributions to theorizing networks from the perspective of technology development and multiplication of meeting and interaction spaces are likely those of Manuel Castells and Jan van Dijk. Within the sociology of communications paradigms, networks are hard to define: they may sometimes be media institutions or means of communication (Munteanu 77-78). The difficulty of defining them comes not only from the system's interconnectivity: natural, cultural, social, economic, but also from the transdisciplinary necessity to approach notions – generated by translating and adapting concepts from one system to another.

From a reductionist point of view, the network is defined by van Dijk as a collection of links between the elements of a unit (2006: 24). Starting from the idea that the present society has a new infrastructure, the author discusses the two concepts that seek to define the role of information, communication and information exchanges in the context of digital media: *the information society* and *the network society*.

As for the concept of *information society*, van Dijk (19) argues that the intensification and multiplication of information from various activities lead to: the foundation of society's organization through science, rationality and reflexivity; an economy deeply characterized by the production of information in all its sectors; a labour market where tasks require knowledge of information processing and a high level of education; and a culture dominated by media and information products that contain signs, symbols and meanings. The author believes that the network society concept "emphasizes the form and organization of information processing and exchange" and he defines it as:

> a social formation with a social networking and media infrastructure that allows for the first way to organize at all levels (individual, group/organizational and as society). These networks are increasingly connecting all the units and the parts of this structure (individuals, groups and organizations). In the western societies, the individual who is connected to the networks becomes the base unit in the network society. In the eastern societies, it could still be the group (family, community, co-workers) connected to the networks.
>
> (van Dijk 20)

For Castells (*The Network Society* 3), *the network society* is a society whose social structure is composed of networks fed by information and communication technologies based on micro-electronics. The author defines the social structure as the organizational arrangements of people in production, consumer and reproduction relations, experience and power expressed in the codified culture communication. A network is a set of interconnected nodes; a node is the point where a line intersects with itself. Electronic information and communication technologies allow the network society to fully install and overcome the historical boundaries of social networks as forms of organization and social interaction. According to Manuel Castells (*The Network Society* 3), the capacity of networks to distribute processing power and develop software exceeds the limits of independent machines, and creates a global interaction system. Digital technologies are characterized by the ability to periodically recombine information

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using interactive communication. The Internet plays an important role in the network, having the ability to connect and recombine digital information from any part of the world. The added value of the Internet, apart from other medium, lies in the recombination of chosen products and information processes in a timely manner to generate a new capacity that is immediately processed and is an endless process of producing information.

Starting from a workshop with Latour, Beck et al. introduced a set of criteria that sociologists should consider when looking for reflexive modernity (19-29):

- *Multiplicity and plurality of boundaries* (Borders are no longer pre-set, they become choices. Borders drawing and multiplication, in various forms, lead to the propagation of the conflict beyond them.);
- *The pressure to draw contextually determined boundaries* (The boundaries are not drawn in a predetermined manner; the tracing process takes place with the individual or organizational decision-making process.);
- *Switching from certainty to multiplication of rationality* (The lack of delimitation between scientific and non-scientific, between science and politics, between experts and lay people produces a multiplication of explanatory ways of phenomena and acclamation of knowledge, which diminishes the power of sciences to precisely determine the causes of a subject and to close the cycle of debates).
- *Waiting for the unexpected* (Consensus is no longer a product of objectivity, and the universal solutions to any problem are unfeasible, thereby new kinds of sub-political institutions appear, which can generate circumstantial solutions for circumstantial problems.)
- *The emergence of the quasi-subject* that has consequences on subjectivity through:
    - Switching from limited sovereignty and calculable subjectivity (the social life of the individual is organized according to predetermined criteria, the degree of subjectivity is predictable) to a multiplication of subjective boundaries (due to the increase of social inclusion and exclusion practices and things left unlimited);
    - Individualization agents become "victims" of change (the networks and the multiple interactions deepen the asymmetries and create a new process of sharing the possibilities and the individual impossibilities, and the individual responsibility is not clearly established);
    - The quasi-subject (individuals have a socially built autonomy, become producers of networks, situations, occupations and forms, and "the Internet is an obvious example of a means of spatially decentralized social inclusion that was made possible by technological progress" (Beck et al. 25).

Christian Fuchs (1) states that internet and society studies also cross a considerable period of definitions with a wide range of labels: internet research, information and communication technologies, and society, social informatics, informatics and society, new media research, information society theory, information society research/studies, internet studies, web research. Starting from the fact that the concepts of "Internet" and "new media" are understood by most people as technological concepts, although sociologists describe them as techno-social systems, Fuchs believes that the notion of information and communication technology and society (ITC & S) is more appropriate (2). He says there are two dimensions to this type of study: the first is the social design of ICT; the second is the impact of using ICT on society and that the ICT and society research is a double process: one in which human actors create the design of information and communication technologies, which analyses how society configures these technologies, and another one which assesses how the use of technology

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transforms society (2). Fuchs has a holistic view over studying the link between the Internet and society by looking at it through four systems: ecological, economic, political and cultural (10).

A similar position is adopted by Newman considering that the *new network science* developed in the early 2000s focuses on the following aspects: a preference towards the properties of real-world networks through theoretical questions and empirical approaches, considering networks as non-static systems evolving in time guided by dynamic and varied rules and their understanding not only as a topological object (graphic image), but as a framework in which dynamic distribution systems are built. At the same time, the authors assert that in social sciences, network analysis does not focus on graphic modelling but on the description of network properties, as a result of the relevant observations from the collected data (Newman et al. 15).

Conclusion

The theory of reflexive modernity developed by Giddens and Beck is a comprehensive explanatory model, a bridge between modernity and the changing current society, both at micro level and especially at the macro level. Thus, the concept of *reflexivity*, through the implications of a continuous (re)production of world knowledge but also of self-knowledge, remains a central one in sociology approaches. Since the *modernization of modernity (hypermodernity)* resonates on all systems of society through globalization and permanent fluxes of change, the processing and finding instruments in scenarios and societal models provide answers to various issues and the emergence of new forms of society confounded in previous networks.

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