From the Invalidity of a General Classification Theory to a new Organization of Knowledge for the Mülennium to come

Rosa San Segundo Manuel

Department of Iibrary and Information Sciences, Carlos III University of Madrid

Abstract

The idea of organizing knowledge and the determinism in classifícation structures implicitly involve certain limits which are translated into a General Theory on the Classifícation of Knowledge, given that classifícation responds to specific parameters and structures more than to a theoretical concept. The classifícation of things is a refiection of their classifícation by man, and this is what determines classifícation structures. The classifícation and organization of knowledge are presented to us as an artificial construct or as a useful fiction elaborated by man.

Positivist knowledge reached its peak in the 20* century when science classifications and implemented classifícation systems based on the latter were to be gestated and Consolidated. Pragmatism was to serve as the epistemological and theoretical basis for science and its classifícation. If the classifícation of the sciences has given rise to clastification systems, the organisation and representation of knowledge has to currendy give rise to the context of the globalisation of electronic information in the hypertextual organisational form of electronic information where, if *in information the médium ivas the message, in organisation the médium is the structure.* The virtual reality of electronic information delves even deeper into it; the process is completed as the subject attempts to look for information. This information market needs standards of an international nature for documents and data. This body of information organization will be characterized by its dynamic nature. If formal and material structures change our concept of knowledge and the way it is structured, then this organization will undergo dynamic change along with the material and formal structures of the real world. The semantic web is a qualitative leap which can be glimpsed on tiie new knowledge horizon; the latter would be shaped with the full integration of contents and data, the language itself would include data and its rules of reason or representation system. The new organisation of knowledge points to a totally nCw conception; post-modern epistemology has yet to be articulated. In the 21st century, the organization of electronic information is presenting a novel hypertextual, non-linear architecture that will lead to a new change in the paradigm for organization of knowledge for the mülennium to come.

1. Invalidity ofa General theory on the classifícation

The concept of organizing knowledge, or classifying information and scientific data, is one of the most ancient that man has had to live with. This problem carne about as a result of man's need to créate a system for all of bis knowledge about the outside world and about the knowledge process. The very idea of organizing knowledge and the determinism in classifícation structures implicidy involve certain limits which are translated into a General Theory on the Classifícation of Knowledge, given that classifícation responds to specific

parameters and structures more than to a theoretical concept. Furthermore, the organization or systematization of the sdences leads to a structuring of reality and knowledge that, in turn, is modified according to the different world views of the people who créate them. The classification of things is a reflection of their dassífícation by man, and this is what determines classification structures. The first categories upon which classifications are based are social categories. Even a child initiates coordinated classification while immersed in a whole series of established relationships that are steeped with valué and are the basis of classification (San Segundo 1996). Intuitive knowledge presents a reality and a structuring and classification of reality that is intact and unaltered by modern forms of thought, as compared with logical classification, which is the result of an elabórate structuring of reality in an artificial manner that makes comparisons with the people around us. Similarly, by applying logic to the world of knowledge, a classification system should arise in which the system is equivalent only to a series of logical principies, but logical principies are not hierarchical by nature. The origin of hierarchical classifications of inclusión and sub-ordination, which introduce a valué system into classification itself, lie in the classification of knowledge and the bibliographical classification of the nineteenth century, which are based on empirical principies and ideas of practicality. They are tested and evaluated only for their usefulness and applicability.

The Western World's classification systems, along with modes of thinking and language structures, give form to social, political, economic and cultural structures, as well as others. Therefore, the classification of the sciences, and in the end documentary classification, take on the shape derived from the Weltanschauung that they form part of. The classification and organization of knowledge are presented to us as an artificial construct or as a useful ficción elaborated by man. They are characterized by their lack of ability to go beyond time barriers, or in other words, for being short-lived. The infeasibility of a classification of the sciences of a universal nature means that a General Theory on Classification is impossible.

Historical changes in the organization of knowledge have been linked to the cultural, political and economic paths of human history. The concept of knowledge organization itself undergoes constant dynamic change, while remaining rather intangible, because as we classify reality, we inevitably alter it, as well. The idea that no all-encompassing system of classification will ever exist is based on the fact that any form of classification will become obsolete over time and space. Yet it is this perpetual obsolescence that makes our attempts at classification so dynamic. There are many well-known theories which uphold that any total classification of knowledge will remain insufficient.

2. The search for other organisational orders in the knowledge universe

Any conception of reality is a construct, or rather a representation, where facts change into realities through an axiology, the mere fact of naming is already classifying, there is no reality outside conscience. (García Gutiérrez 2004: p. 29). Intact reality would be that which has not been the object of construction, that which has not been thought of or translated into language. Thus, reality will always imply conceptual conventions, and culture is found in the proper order of things and said order of things is conceived as something which is imposed, which is given. Demarcation sets the mark, animáis demárcate their space, and humans make their own demarcation via their spaces, they delimit with marks, and different ways of thinking lay down an excluding demarcation (García Gutiérrez 2004:/). 38).

Traditional knowledge classifications are limited as western epistemology is, insofar as the demarcationism which comprises it exacerbates the difference as demarcating is a form of recognition and representation, and which classifying structures wall and delimit. All cultures are built around closed discourse constructed upon explanatory segments, and both the centre and the power are built like a fallacy which is established like a hierarchical structure incapable of controlling its peripheries. Different ways of thinking establish an excluding demarcation, which is why cíassification is more perishable than interpretation. If in the configuring methodology of the Organisation and representation of knowledge, cíassification is even more perishable than interpretation, deconstruction implies thinking the declassification or, in other words, the search for other organisational orders in the knowledge universe. It is a question of analysing via concepts or ideas.

Deconstruction attempts to lócate ostentation in order to demónstrate want or, in other words, cíassification is so biased by positivist logic that an attempt is made to seek another knowledge order. Thus, large encyclopaedic classifications, which apparently present a stricter order, are in reality subject to a fractal structure, whether it be of repetition or similarity, and all fractality implies chaos (García Gutiérrez 2004: p. 39), whereby the hierarchy underlying cíassification systems is lacking in the stability it apparendy presents. To sum up, cíassification has been a segregationist and demarcationist tool (García Gutiérrez 2004: p. 41).

3. New epistemological paradigm for science: The organisation of knowledge from pragmatism

Positivist knowledge reached its peak in the 20.h century when science classifications and implemented cíassification systems based on the latter were to be gestated and Consolidated. Nevertheless, in the late 20* and early 21st centuries, Pragmatism was to serve as the epistemological and theoretical basis for science and its cíassification (San Segundo 2004: p. 106-111). Initially, pragmatism emerged as a reaction to idealism, nevertheless it is an idealistic philosophy, as its initial intention was to sitúate reality as objective and independent, but it ended up becoming an epistemology at the service of subjectivism.

This epistemological school emerged within the American political, economic and social context of the early 20th century, where the most conservative social classes tried to control the overwhelming progress of science, technology and industry of the 20th century, within a context of dominant classes which primarily sought to rise in society in economic terms, and which, at the same time, attempted to prevent materialistic ideas, which were widespread in 19* and 20th century in Europe, from penetrating, as the United States grew by taking advantage of the exploitation of large masses of immigrant workers. And, in a social context where there was enormous spiritualism, as American society was constituted around a religious setting imported from the oíd society, transcendental philosophy found no way of becoming established. Large migrations Consolidated their culture over and above original cultures and they also Consolidated their position in the virtual cultures of the 20th century (Peirce 1971: p. 15). It is within this context that Pragmatism aróse, advocating a new idealistic school as the optimum solution, where the subject's actions were to be the final basis for knowledge, for science and for its representation. Charles Pierce was the first to postúlate Pragmatism, followed by William James and John Dewey (the philosopher, not the creator of Decimal Cíassification), and would end by consolidating the official philosophy of the American bourgeoisie.

Consequently, science and reality will no longer be the objectifiable fact of knowledge but, • $_{sa}$id knowledge, there is a reconstruction of the subject; contemporary science, and all the scientific sub-disciplines, in their status as sciences, will be more mediated by the subject. Within the context of Information Science, articulation will be undertaken around $_{ra}$p-$_{ma}$tism and this is how conceptual meanings in science will be established. Thus, the traditional classification systems, which comprised the bibliographical paradigm based on 20th century Positivism, have now been transferred to the Pragmatism-based, person-computer paradigm. The traditional theoretical model of information recovery based on the mere invariable comparison of demand and information recovery called bibliographical paradigm has fallen into disuse on account of an interactive information search process, evolving without a full comparison, called person-computer dialogue paradigm (Fernández Molina & Moya Anegon 1998: p.84). Meaning is a common conceptual framework, which, now eliminated, will become the object of the subject's reconstruction. Virtual reality, and its organisational form, will be more influenced by the subject; objective and external reality will transform into a reality influenced by the subject, who will establish the very meaning of said reality, and will créate its structure and organisation; the idealistic conception of reality will alter the most materialistic conception and will imprégnate all scientific conceptions, including the organisation and representation of knowledge, on attempting to recover or rebuild the reality which has been reflected in the digital environment.

4. *Knowledge organisation in the digital multimedia revolution*

If the classification of the sciences has given rise to classification systems, the organisation and representation of knowledge has to currently give rise to the context of the globalisation of electronic information in the hypertextual organisational form of electronic information where, if *in information the médium was the message, in organisation the médium is the structure.*

Digital post-modernity will establish a new organisational standard; in the modern universe it was presented as objectifiable, and the post-modern universe is immersed in the digital, and this technology incorporates, even more so than writing, its own interpretation mechanisms. The digital universe totally establishes this loss in its meaningful and organisational form. Technological 'contemporanism' tends to reduce thought although a priori it seems like a paradox, all the new material forms that have existed of knowledge symbolisation have meant a reduction in what is real, in spite of the fact they have afforded greater information storage capacity. Now the contents themselves are already impregnated with this organisational structure, which is established in the user reconstruction. New digital meaning segments will establish a reconstructed reality, so divided that it has lost unity and, without the latter, it does not exist as such. The intrinsic segmentation of the digital universe is going to be constítuted and reconstituted as minimum units of meaning, which get smaller and smaller. The new organisation of knowledge is not positivist, it is idealist, it is the subject who builds; there does not exist an ongoing objectifiable reality outside the subject, it is fragmented and therefore lacking in meaning.

A complex network of symbolic representations will be constructed with new represen-tations and symbolic reconstructions. Our knowledge is going to be structured, reality is not going to be objective and exterior to the subject; it is the latter who will establish it. The virtual reality of electronic information delves even deeper into it; the process is completed as the subject attempts to look for information. The new organisational form of electronic mtormation is now more visual and less auditor}', and impacts by consolidating more linear models of constructed reality. And in order to construct electronic knowledge, more human

rationality and ethics will be necessary which includes many other perspectives and even their oversights.

The innovations in the organization of electronic information point to a new conception, that of the information market and integrated Communications, thanks to electronic and information networks, without borders, working in real time and permanently. This information market needs standards of an International nature for documents and data. The multimedia revolution is providing the technological support to a globalized word, and offers the possibility of opening the market to the world. The matter at hand is the crucial instrument of financial markets of the post-capitalism of the 21 st century.

The formal characteristics of hypertext coupled with the material features of the supra-powers will lead to a form of knowledge organization in which information is presented as a whole, in one unit alone that serves as an all-encompassing body of information organization. This body of information organization will be characterized by its dynamic nature. If formal and material structures change our concept of knowledge and the way it is structured, then this organization will undergo dynamic change along with the material and formal structures of the real world. The new global view of reality and the hypertext stmcture upon which knowledge will be based will give knowledge a stmcture expressed at the level of the unit, in terms of both contents and meaning. Yet this unit will be dynamic and subject to change. Only then will the global organization of knowledge have taken place in a formal and material sense.

In a formal sense, the way knowledge is now organized responds to the material way in which information is presented, which currently means using a stmcture of hypertext links on the Internet. This semantic stmcture can be reduced to the individual unit. Information contained in a electronic médium therefore implies the use of a structure that fits the médium itself. This information stmcture could eventually allow us to design one single document filled with links on the Internet.

In the new era of electronic information an attempt is being made to define and delimit the appropriate formats for inserting or publishing a document on the Internet when the information is introduced to facilítate locating it later. While inserting or publishing on the Internet is simple enough, the location, control and use of information is a more complex task. Thus the estabüshment of the rules and elements that the description and classification of resources on the Internet must contain will be crucial.

In this way, electronic catalogue services and sources will also be accessible through the so-called search engines and the Website sources themselves. The new data base structure is accessible through the Websites, which means that the data bases themselves transform their own stmcture. If standards of classification and indexing were accepted internationally, it would mean that all the robots that index documents on the Internet would find the needed, uniform data for indexing in the document heading. The effectiveness of robots would be gready enhanced for both indexing and searching.

In the 21 st century, the organization of electronic information is presenting a novel hypertextual, non-linear architecture that will lead to a new change in the paradigm for organization of knowledge for the millennium to come. The 20th entailed a major change in the paradigm for document classification. Similarly, the 21 st century, the organization of electronic information is presenting a novel hypertextual, non-linear architecture that will bring with it a new change in the paradigm for organization of knowledge for the millennium to come.

The needs for standardized Internet indexing and search engines are a consequence of the information needs and the global nature of economic development. We are dealing with a continuous trend toward privatization, concentration, diversification and other aspects that

have given rise to a new conception of information: the information superhighways. We are dealing with an information infrastructure that will entail going from the galaxy of audiovisual mass media to the galaxy of computer and informational system integration, just as we went from the Gutenberg galaxy to the Marconi galaxy. In the 21st century, globalization is the next historical stage. We are dealing with economíc globalization, and henee with total globalization.

Computers can already establish links by semantic contents and not only by similar lexical contents, thus forming a so-called semantic web. Data on the web have to carry meta-information, thus the semantic web will afford structure to the meaning of web page contents. Not only is person-computer interaction necessary, but interaction must also be from computer to computer, both processes have to involve interactive dialogue. The semantic web is a qualitative leap which can be glimpsed on the new knowledge horizon; the latter would be shaped with the full integration of contents and data, the language itself would include data and its rules of reason or representation system.

The new organisation of knowledge points to a totally new conception; post-modern epistemology has yet to be articulated. There has been a leap from the invalidity of a general knowledge theory, which culminated in positivist epistemology, to a new digital organisation which is objectively de-structured and structured from subjectivity, based on semantic networks instead of lexical similarities, within this process of methodological revolution and, with some new material parameters, the fortheoming millennium invades a new organisational form of knowledge in the digital post-modern universe.

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