

# The Hope of Fantasy

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*Long before philosophers existed, a  
handful of auxiliary verbs split the cosmos.*

(E. JUNG)

**Abstract.** Undoubtedly, technology applied to documentary activity has created links between countless, often distant, data banks, and made it possible to retrieve enormous quantities of information with a speed which a few decades ago had not even been envisaged. The real advantages that SBN, Opac, CD-ROM, telematics etc. offer research is evident. Therefore, there is no desire to put technics on trial as this would be both as ungenerous as it would be futile. The intention here is to highlight some implications that, on a theoretical and practical level, can derive from the automatic analysis of documents, when the "artificial intelligence" is called upon to perform roles which are proper to men. This is also because the technology of the artificial involves "ethical questions which arise from the cultural premises on which it is based." To conclude, the intention is to warn that any progress in the computerisation field including those abstract aspects of intellectual activity, must remain a means which is controlled and guided by man.

**Résumé.** Il ne fait aucun doute que la technologie appliquée à la recherche documentaire a créé des liens entre d'innombrables bases de données, souvent distantes, permettant ainsi d'accéder à des masses énormes d'information à une vitesse inimaginable il y a quelques décennies. L'avantage réel que SBN, Opac, le CD-ROM, la télématique etc. offrent à la recherche est évident. Il n'est donc pas question ici de faire le procès de la technique, ce qui serait aussi futile que peu généreux. Notre dessein est de mettre en évidence certaines conséquences possibles de l'analyse automatique de documents — principalement quand l'intelligence artificielle se voit confier des tâches propres à l'homme. Cela est dû également au fait que la technologie de l'artificiel implique des « problèmes éthiques qui découlent des prémisses culturelles sur lesquelles elle repose ». En conclusion, notre intention est de montrer que tout progrès informatique concernant les aspects abstraits de l'activité intellectuelle doit rester un outil contrôlé et guidé par l'homme.

**Keywords:** Documentation, automatic analysis of documents, subject cataloguing, indexing.

**Mots-clés :** Documentation, analyse automatique de documents, classification par sujet, indexation.

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## 1. Prehistoric Man

On the French slopes of the Pyrenees, in the so-called "black room" of the Paleolithic caves of Niaux, traces of drawings were discovered representing bison pierced with arrows. Experts presume that it was the terror of the unknown which led the "aspiring painter" to depict hunting scenes which take us back at least 40,000 years. However, they have not been able to establish with any certainty whether these drawings record an event which has taken place or express the desire that the scene depicted will be the outcome of a hunt to come.

In the case of the former we are in the presence of "history in the making" or "the birth of history"; in the latter, we stand before one of the many possible magical practices of the "stuttering preliterate time", when man represented things true to life, while writing, which was still to appear, was being invented with a sharp flintstone on the walls of the rocks.<sup>1</sup>

The "primitive" as imagined by Rudyard Kipling, lived in a cave, and did not know how to read or write; he was unable to tell his right from his left, was always happy, except when he was hungry or attacked by beasts. His name was Tugmai Bopsalai, and this meant "man-who-does-not-put-his-foot-forward-without-knowing-why".<sup>2</sup>

Thus, even the primitive signs scratched onto the stone mirrors, although in a quite different way from the evolved contemporary models of description or simulation of reality, seem to herald the eternal desire of man to understand the mysteries which surround him, and at the same time the desire to question nature in order to dominate it and by means of the reproduction of the phenomena which govern it, extract means of sustenance and progress.<sup>3</sup>

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<sup>1</sup> NIKITIN (Augustin): 1991, "The relationship between Christianity and culture" *Prometheus. International Journal of Political Science*, 15, p. 41-69, p. 41; DAMIOTTI (Rita): 1990, "Birth of Language according to anthropology", *Cultura & Libri*, 63, p. 41-51; GARDNER (Robert), GARDNER (Beatrice): 1975, "Early signs of language in Child and Chimpanzee", *Scienze*, 187, p. 752-753; LEAKEY (Richard): 1982, *Man's Long Journey* (Milan: Mondadori), p. 255 *et seq.*

<sup>2</sup> KIPLING (Rudyard): 1926, "The child who invented writing", in *The Elephants' Dance* (trad. it. Milan: Corticelli); quotation is taken from: BOCCA (Giorgio): 1980, *Viaggio nella storia della cultura, I* (Bologna: Zanichelli), p. 88 translated by GIBLIN (Teresa).

<sup>3</sup> NEGROTTI (Massimo): 1990, "Towards a theory of the artificial", *Prometheus. International Journal of political science*, 13, p. 23-125, *passim* p. 25 and 23.

Simon synthesized the fundamental steps of technological progress, when he writes "in the first stages of mechanisation, the primary function of machines was to substitute human energy with mechanical energy. In more recent developments, a further objective has been to give machines sensorial and selective capacities: these are the two abilities that distinguish previous mechanisation from more recent automation."<sup>4</sup>

## 2. Ancient Themes and New Methods

Documentation, intended as the task of dividing, redividing and classifying volumes and findings, miscellany and documents has always existed, and had been put into practice long before Paul Otlet conferred official registered status upon it in the title of a report called *L'organisation rationnelle de l'information et de la documentation en matière économique*, presented at the International Congress for World Economic Expansion, held at Mons in 1905.<sup>5</sup>

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<sup>4</sup> SIMON (Herbert A.): 1965, *The Shape of Automation for men and Management* (New York: Harper & Row), p. 33–34. It is mentioned that the texts mediated by techniques and various supports as compared to traditional supports form "new writings and reading methods", which tend to modify the ancient methods of presentation, visibility, the ways of working and creating. Passing from Codex to the screen, the same text, as regards form, is not the same, because the new formal devices which propose it to the reader, modify reception and comprehension conditions. For instance, "the triumph of black on white" is lost, the margins disappear, the space between paragraphs which breaks up the uninterrupted text tends to disappear; indentation may be omitted, which helps visualisation. Thus it cannot be excluded that the best reading conditions will be lost because of these formal changes caused by new techniques and it should encourage us to think about the methods of implementing bibliographical units printed on paper and optic discs (CHARTIER (Roger): 1984, *The Order of Books* (it. trans. Milan: *Il Saggiatore*), *passim* p. 24–26 and 104; and see also, MANIACI (Marilena): 1990, "Production and use of written culture: Orientation and Prospectives", *New Annals for the Special School for archivists and librarians*, IV, p. 103–131, p. 115–116 and 124; INNOCENTI (Pietro): 1989, *The practice of reading* (Milan: Editrice Bibliografica); BUZZETTI (Dino) & QUAGLIARELLI (Leonardo): 1991, "Computer science and criticism of the text: the case of a 'fluid' translation", *Schede umanistiche*, p. 185–193, p. 192; FERRETTI (GianCarlo): 1990, "The Editor as mediator", *Belfagor*, 1, p. 23–29; DELL'ORSO (Francesco): 1994, "The conversion of the format of data: how, when, where", *Libraries Today*, 2, cit., p. 24–31; HENIN (Silvio): 1991, "The optic publishing trade. Technology, Evaluation, Trends", *Libraries Today*, 1, p. 29–59).

<sup>5</sup> "The National Institute for Intellectual Cooperation", together with the "Union française des organismes de documentation", formulated the definition of documentation in these terms: l'établissement, la recherche, la réunion et l'utilisation des documents (cf. MEYRIAT (Jean): 1993, "Documentation: elements for reexamination", it. trans. *New Annals*

As Solimine points out, "documentation was born to take care of unconventional literature which the library and library science took very little interest in and also, to meet very specific requests. The centres of documentation and the data banks collected material (internal reports, patents, project descriptions etc.) and data (numerical and statistical) which were difficult to organise in a traditional library, where there is usually only the processing of information contained in that type of document. This difference between primary and secondary documents represents in this century, and especially in the last decades, the dividing line which has separated documentation centres from libraries."<sup>6</sup>

Compared to the past, even the recent past, the character of this novelty is constituted by the "idyll" which has been established between the science of information and the science of data processing.

The overlapping of some of the branches common to both sciences has obliged "workers" to establish better defined limits for tasks which truly belong to documentation rather than to bibliography<sup>7</sup> while techniques traditionally used for the representation and recovery of documents have had to be redefined with a new "approach", so as to adapt them to the new role which documentation activity has acquired in the age of the computer.<sup>8</sup>

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for the *Special School for archivists and librarians*, VIII, p. 139–151, *passim* p. 139–140, 142 *et sq.*; BALBIS (Bruno): 1950, "Documentation", in *The book and libraries* (Romae: Pontificium Athenae, Antonianum), II, p. 259–319, p. 261–262 and 265; HILL (Michael W.): 1995, "FID—Past, Present and Future. A brief History of the International Federation of Information and Documentation from 1895–1955 and beyond", *New Annals for the Special School of Archivists and Librarians*, IX, p. 103–223).

<sup>6</sup> SOLIMINE (Giovanni): 1985, *Information in the library. Introduction to problems in bibliographic information* (Milan: Editrice Bibliografica), p. 23–24.

<sup>7</sup> The need to make a distinction between the role of documentation and that of bibliography had already made itself felt at the first sitting of the Fifteenth Conference of the *Fédération internationale de la documentation*, held in Zurich in August 1939; but on that occasion it was recognised that in many cases it was not possible to separate the two fields of activity; still today, as Francesco Barberi says, "a certain overlapping, at least partial between these two fields and therefore a certain confusion would seem to be undeniable" (cf. BARBERI (Francesco): 1967, "Humanistic documentation", in *Library and Librarian* (Rocca San Casciano: Cappelli), p. 183–191, p. 184; BALBIS: 1950, p. 278.

<sup>8</sup> PACI (Augusta Maria): 1995, "The International Federation of information and documentation. A global view of activities and organisation", *New Annals for the Special School for archivists and librarians*, IX, p. 225–234; CAROSELLA (Maria Pia): 1995, "The International Federation for information and documentation and universal decimal classification", *ibid.*, p. 235–250; SAMBATARO (Antonino): 1995, "In the Labyrinth of the paperless library", *Literary Experiences*, 1, p. 101–109.

This new state of affairs, has on the one hand contributed to conferring a "higher status" to documentation while on the other it has had the effect of encouraging documentation to be seen as an exclusively technical activity (e.g., data base, access procedures, data quantity)—as a "straightforward exercise" which only requires a little computer knowhow.

For Simons, who considers it a science, documentation "must be creative, that is to say it must foresee, anticipate and coordinate needs which have not yet been formulated."<sup>9</sup>

Paolo Bisogno, who is also careful to highlight the "intellectual side" of documentation, affirms that this activity must essentially be carried out by "mental activity which analyses and interprets the conceptual content of the document so as to identify the informative units and propagate them with suitable procedures."<sup>10</sup>

In the programme outlined in 1962 by a group of American specialists, and reformulated at the end of 1967 by the President of ASIS, it is stated that "the science of information studies the characteristics and the behaviour of information, the forces which control the process of its transfer and the technology necessary to deal with it in such a way as to optimise access and use. In particular, it is interested in how information is presented in systems whether they be artificial or natural, in the use of codes which ensure the transmission, the conservation and the recovery of messages and in the study of methods and techniques destined to deal with information like data processors and their programmes [...]; this science has a double role, one is to study the argument theoretically and the second to study its practical application in developing services and products."<sup>11</sup>

Therefore, according to the interpretation, the definition of documentation wavers between a "reductive conception", which limits the area of action only in the case of particular kinds of documents and an extensive conception", which defines it as the technique (or science) suitable for collecting, reuniting, classifying and making all kinds of documents in every branch of knowledge accessible.<sup>12</sup>

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<sup>9</sup> SIMONS (E.N.): 1947, "A novice in documentation", *Journal of Documentation*, II, p. 239.

<sup>10</sup> BISOGNO (Paolo): 1980, *Theory of documentation* (Milan: Angeli), p. 18.

<sup>11</sup> MEYRIAT: 1993, p. 149.

<sup>12</sup> SOLIMINE: 1985, *passim* p. 23–24.

### 3. Automatic analysis of documents

When considered from the point of view that speed and the overcoming of distances seem to characterize our time, the activity of documentation is destined to become ever more a *communication science*.

Thus, at the moment the most important problem has become communication between man and machine, since the orientation of the future development of the activities in which documentation is directly or indirectly involved, depends on how this problem is dealt with and resolved.

In this context the question whether "free language" and "controlled language" should be used in the area of automated systems organised to recover documents by means of index and subject entries.

In the automatic analysis of the documents for "derived terms", which uses language termed "natural", the interrogation can take place only by using key words extracted from the title or all the words that appear in the record: this research method had proved disappointing, both for the poor level of "precision" (the relation between the documents which the data base indicates on a describer and the documents effectively useful for the research) and also because of the poor retrieval (the relation between the indications given in response to interrogation and those which are present on the same theme in the library archives).

To fill the dispersion gap of correlated or similar subjects, the user has to search under all the synonyms or near-synonyms with which it would be possible to denote the argument requested, and examine all the possible variations and all the possible correlations of terms.

A "computer-like" definition of subject, at best utilizable in selective communication procedures, is not good enough when composing and ordering indexing forms which are relevant and exhaustive, as they must be, when destined for repeated and long-lasting collective use.

To substitute computer processes based on derived terms, research methods must be perfected and based on "assigned terms": these procedures instruct the librarian-indexer to carry out a series of "technical operations" which go from conceptual analysis of the document and the identification of its semantic content, to the determination of indexing concepts.

This means that in a system of indexing the fundamental role of the documentarian-librarian is confirmed as it is still his task to formulate the

“nature” of the subject while the processor constructs the various index entries and automatically controls recovery operations.<sup>13</sup>

#### 4. The Utopia of Objective Reading

Perhaps Plutarch was mistaken, since in the first century of our era, fun was made of those who believed that the moon of Athens was more beautiful than the moon of Corinth. This was because, as Flaubert states: “each of us has a prism through which he perceives the world.”<sup>14</sup>

30 May 1828 – [...] Some days ago an Englishman arrived in Rome with his horses, which have brought him here all the way from England. He refused a cicerone and, despite the sentinel's efforts, he entered the Coliseum on horseback. Some hundred masons and galley slaves are constantly working to consolidate some wall that is crumbling from exposure to the weather. The Englishman watched them work, and he told us that evening, “Begad! the Coliseum is the finest thing I've seen in Rome. I like that building. It will be magnificent when they have finished it.” He thought that those men were actually building the Coliseum.<sup>15</sup>

The truth is that no one, as Karl Barth maintains, “can read through other people's eyes”<sup>16</sup>, above all because we read with the cultural heritage we have accumulated in our reading, according to the context and the expectations we have of a text (or a fact). No matter whether we are dealing with a newspaper or a book by Proust, the text has meaning

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<sup>13</sup> CAFFO (Rossella): 1988, *Analysis and indexing of documents. Subject Access to information* (Milan: Editrice Bibliografica) *passim* p. 46, 67 and 76; SAMBATARO (Antonino): 1996, “The world of the book”, *Society of Information*, IV, p. 75–85; SOLIMINE: 1985, p. 78; SOLIMINE (Giovanni): 1990, *Management and Innovation in the library* (Milan: Editrice Bibliografica), *passim*, p. 106–107; ASCHERO (Benedetto): 1989, “The professional formation of the indexer in Italy. Problems and Proposals”, *Indexing*, 4, p. 22–46; ASCHERO (Benedetto): 1988, *Theory and the technique of subject indexing* (Milan: Editrice Bibliografica), p. 19 *et seq.*; PETRUCCIANI (Alberto): 1987, “Precis: an indexing system in experimentation in Italy”, *Indexing*, 2, p. 9–19; SERRAI (Alberto): 1991, “From Indexing to Precis: instructions for use”, *The librarian*, 29, p. 95–98; FONTANA (Antonia Ida): 1996, “The automatised retrieval of information”, *Indexing*, 1, p. 12–18.

<sup>14</sup> FLAUBERT (Gustave): 1966, *Memoirs of a Madman* (trans. it. Rome: Newton), p. 75.

<sup>15</sup> STENDHAL: *A Roman Journal* [eng. trans. eng. London: Orion Press Ltd. 1959 by CHEVALIER (Haakon)], p. 145–146.

<sup>16</sup> BARTH (Karl): 1931, *Fides quaerens intellectum: Anselms Beweis der Existenz Gottes* (Munich: Kaiser) [trans. it. *Philosophy and Revelation*, Milan: Silvia, 1965], p. 6.

only thanks to its readers, it changes with them, it is ordered according to codes of perception which the author has no power over, and therefore, very different interpretations can be both correct and interesting.

In any case, not even the “major works”, the so-called classics, have a stable, universal and chrystallised meaning, but possess meanings which may change in time.

Even in the extreme case of a blank page or a text where  $A = A$  is repeated for 200 pages we wonder why this form of communication has been chosen and what its meaning may be and even if we were to come to the conclusion that this form, in effect, was meaningless, we would give an interpretation, we would supply it with some meaning. Therefore, not even the most “naive” and literal reading remains neutral.<sup>17</sup>

Thus, the same text, read again by the same reader after a period of time, can be understood and interpreted differently from the first reading.

Look for example at what Coleridge writes:

I have been re-perusing with the best energies of my mind the Timaeus of PLATO. Whatever I comprehend, impresses me with a reverential sense of the author's genius; numerous passages in this author, which I thoroughly comprehend, were formerly no less unintelligible to me, than the passages now in question. [...] Though I might find numerous precedents, I shall not desire the reader to strip his mind of all prejudices, or to keep all prior systems out of view during his examination of the present [...]. Till I had discovered the art of destroying the memory *a parte-post*, without injury to its future operations, and without detriment to the judgement, I should suppress the request as premature.<sup>18</sup>

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<sup>17</sup> COZZO (Cesare): 1994, *Theory of meaning and philosophy of logic* (Bologna: CLUEB), p. 25–26, 30–31; BISCUSO (Massimiliano): 1987, “Itineraries of understanding. Theory and narration”, *Correspondences*, 1, p. 11–32, *passim* p. 13, 17, 20 and 31–32; CHARTIER: 1984, p. 16; RUSSO (Francesco): 1991, “Hermeneutics in Truth and Gadamer's method”, *Culture & Books*, 68, p. 37–49, p. 41; JASPERS (Karl): 1959, *Origin and sense of history* (trans. it. Milan: Edizioni di Comunità).

<sup>18</sup> COLERIDGE (Samuel T.): 1962, *Biographia Literaria*, vol. 1, p. 161–162, O.U.P.



## 5. "The Queen's Horseguards"

The reader comes to grips with a document with the same keys that he uses to unlock his own conceptual and linguistic categories, and therefore he interprets a document (or a fact) according to personal codes of perception, which are determined by his personal cultural baggage but also by the influence exercised by the reality which surrounds him and by the nature of the relationship which he has with the past and tradition.

Therefore as Laufer strongly affirms, "cultural works in particular, cannot be confined within theoretical constructions, no matter what they be, nor can they be reduced and caged within mathematical formulae."<sup>19</sup>

In order to grasp the extent of possible limits, if we were to delegate the interpretation of every aspect of scientific and cultural production to the logic of a word processor, try to imagine what sort of interpretation a computer could give to the multiplicity of meanings which Heidegger attributes to the colour azure in his essay *Die Sprache im Gedicht*.<sup>20</sup>

For Heidegger the passing of mortals happens in the azure of the night; he speaks of an azure river, an azure fair, of the light of an azure spirit, an azure smile on a face, an azure spring, of the soul as an azure moment; the beam of azure gathers the depth of the Sacred to itself; azure is the centre in which grief, death and love unite.

Moreover, when a "problem" formulated according to traditional language is transferred to computer language (or the elaboration of information), the initial terms of the problem give rise to persistent conditions of ambiguity, and may undergo important changes, modifying the nature of the problem which can in turn lead to conclusions which are only partially correct or even totally wrong. In fact we should ask ourselves what meaning a computer might give to the phrase: "The Queen's Horseguards".

To the artificial intelligence, in as much as it can produce "only pure reasoning, intelligence as distinct from thought", it cannot be required to go over the threshold of uninterpreted information. By overstepping this line of information and trusting to a man-machine relationship to the exclusion of others, it would be possible for instance for a computer

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<sup>19</sup> SANTORO (Marco): 1997, "Written and audiovisual culture", *Literary Experiences*, 1, p. 3–25, p. 4.

<sup>20</sup> HEIDEGGER (Martin): 1973, *Unterwegs zur Sprache*, (it. trans. with the title *In cammino verso il linguaggio*, Milan; Mursia), *passim* p. 42–44, 46–47, 49, 68–69.

actually to suggest "equivocal alternatives" to a clergyman who had asked for information on places "where he could have close encounters with the people of the city".

Another example: the computer is able to supply a great quantity of information on donkeys but it is not able to interpret metaphors, allegories or paradoxes on its own. It cannot understand and explain the connotations of Buridano's donkey in allegorical tradition, since that donkey does not belong to a real species, but to an abstract species: the "natural" ones in fact "never die of hunger or thirst if they have water and food available."<sup>21</sup>

Therefore, if we accept the concept that formalised languages are born from content and utilise structures which do not have a precise meaning, but acquire a precise meaning thanks to the process of interpretation, the weak point of a computer structure organised in this way lies in presuming that the language created by it may be capable of establishing "efficient contact" even with the abstract world from which historical, philosophical and artistic languages are drawn.<sup>22</sup>

D.F. McKenzie warns against the illusion of being able to mediate the intellectual production by means of a reductional or technical vision of knowledge.<sup>23</sup>

John Metcalfe himself, stalwart supporter of the efficiency of the alphabetic subject catalogue, had to recognise that "there is conflict and confusion over the use of the word subject, both for those who compile and for those who consult catalogues and indexes."<sup>24</sup>

Patrick Wilson says much the same thing when he asks himself if there may not be something in the notion of "the subject" of a work which

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<sup>21</sup> NEGROTTI: 1990, *passim* p. 33-34, 38, 45; MOSCONI (Giuseppe) & SERAFINI (Maria Grazia): 1994, "Formulation in natural language and formulation in computer language of an 'insight problem' (the nine point problem)", *Rendiconti*, 1, p. 89-101; HOLTON (Gerald): 1992, *The imagination of science* [ed. by PRETA (Lorenza)] (Bari: Laterza).

<sup>22</sup> BISOGNO (Paolo): 1990, "Nature, culture, science, technology", *Prometheus, International Journal of political science*, 13, p. 7-20, p. 10; BORGHINI (Alberto): 1994, "Il nome proprio nell'ambito di una teoria semiotica dell'identità. Spunti preliminari su valore e luogo sistematico", *Linguistics and Literature*, 1-2, p. 9-40.

<sup>23</sup> Cf. CHARTIER: 1984, p. 104.

<sup>24</sup> METCALFE (John): 1973, "When is a subject not a subject?", in *Toward a theory of librarianship: papers in honour of Jesse Hawk Shera* [edited by RAWSI (Conrad H.)] (Metuchen: The Scarecrow Press), p. 303-338, p. 336.

contributes to the difficulty of dealing with the problems presented by subject catalogues and similar instruments.<sup>25</sup>

## 6. Quantity + Quality

According to the "fifth law" of Ranganathan, "the library is a growing living organism", and the information is not a "thing" that is found in the documents ready to generate an index entry as "a kind of electric charge produces thunder", but is instead the indexer that hypothesises which index entries are suitable for generating occasions when the concepts contained in the documents themselves and the users can meet. The users in any case approach their research by adopting a variety of objectives and they are guided by various motives, temperament, ideologies, tendencies and states of knowledge.<sup>26</sup>

Therefore, with great foresight, Ortega y Gasset imagined 50 years ago "the future work of librarians as a filter which runs between the stream of books and Man."<sup>27</sup>

Considering the strict link which exists between science and man, industry and technical advancement, an element which characterises the actual development of computer systems "is that of exponential growth, typical of phenomena which grow and feed themselves continuously."

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<sup>25</sup> WILSON (Patrick): 1968, *Subjects and the sense of position*, previously in *Two kinds of power: an essay on bibliographical control* (Berkeley: University of California Press); now in *Theory of Subject Analysis: a sourcebook*, edited by MAI CHAN (Lois) & RICHMOND (Phyllis A.) & SVENONTU (Elaine): 1985 (Littleton: Libraries Unlimited), p. 308–325, p. 308–309; TARTAGLIA (Stefano): 1995, "For a definition of 'subject'", in *The language of library writings in memory of Diego Maltese* [collected by GUERRINI (Mauro)] (Florence: Edizioni Regione Toscana), LL, p. 789–801, p. 789.

<sup>26</sup> RANGANATHAN (Shiyali Ramanrita): 1957, *The five laws of library science* (Bombay: Asia Publishing House); cf. BEGHTOL (Clare): 1989, "The efficiency of retrieval. Theory of an experimental methodology to measure the value of the result of research from the user's point of view", it. trans., *Libraries Today*, 6–7, p. 52–60.

<sup>27</sup> The quote from Ortega y Gasset is taken from SOLIMINE: 1985, p. 112; PETRUCCIANI (Alberto): 1982, *Semantic foundations of subject cataloguing*, "Academies and libraries in Italy", 3, p. 219–234, p. 219; PETRUCCIANI (Alberto): 1984, "The evaluation of documentary research systems", *Libraries Today*, 2, p. 29; SERRAI (Alberto): 1979, *Index, logic and language: semantic catalogue problems* (Rome: Bulzoni), p. 172–173; MALTESE (Diego): 1982, *Elements of indexing by subject* (Milan: Editrice Bibliografica), p. 10–15; MALTESE (Diego): 1988, *Critical introduction to a catalographic description* (Milan: Editrice Bibliografica), p. 19, 24 and 25.

As Goldman underlines, “a mathematical theory does not yet exist which is able to establish the relation between information and he who receives it in quantative terms: this is its value, that it does not necessarily correspond to the quantity of information communicated”, and therefore, the importance of the filter Ortega y Gasset speaks of cannot be underestimated. All the more reason why the overabundance of useless information around today, redundant and practically irrelevant, would lead to what is known as “return notionalism”, a *mare magnum* in which, of the enormous quantity of information found, very little is in effect useful.”<sup>28</sup>

To grasp how many different answers, all apparently correct, that can be given to the same question Perec comes to the rescue and writes:

If I go by the house I live in, I may say “I live there.” [...] If someone in Paris asks me where I live, I may choose from a dozen answers. I could say “I live in rue Linné” only to a person who I know for sure knows where rue Linné is. Or I could say, “I live in rue Linné, beside the Science Faculty” or rather, “I live in rue Linné, near the Jardin des Plantes.” In whatever part of France, I believe that I am sure to be understood if I say “I live in Paris or I live in the capital”, or “I live in the city that was once called Lutezia.” The information “I live in Europe” could be understood by an American in Japan. I risk not being understood if I give information of the type: “I live 48 degrees and 50' latitude north and 2 degrees and 20' longitude east; I live 890 kilometres from Berlin, 2,600 from Constantinople, 1,444 from Madrid.” Perhaps one day it will be possible to say: “I live on Planet Earth.” If it were a ‘third type’ come down on our lowly world it would already know that. But if I were to find myself in some area near Attarus or KX1809B1, I would certainly have to indicate that “I live on the third (in any case the only inhabited planet) of one of the main planets in the solar system in growing order of their distance in respect of the solar system”, or “I live in one of the planets of one of the youngest dwarf stars situated on the edges of a galaxy of mediocre importance arbitrarily called the Milky Way.” And, at

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<sup>28</sup> GOLDMAN (Stanford): 1957, *Teorija informacii* (Moscow, Izdatelstvo Inostrannoj Literaturny); for the cit. v. SOLIMINE (Giovanni): 1985, p. 43–44; AGHEMO (Aurelio): 1991, “Interview with Arthur Curley, Director of the Boston Public Library”, *Libraries Today*, 5, p. 567–584; AGHEMO (Aurelio): 1994, “Absolute Quality: only a mirage?”, *Libraries Today*, 2, p. 40–43; DOVIGO (Armando): 1995, “In the network, but with judgement”, *Libraries Today*, 3, p. 15–18; MARZANO (Gilberto) & DANIN (Antonio): 1991, “Documental practice and new professional scenarios. The role of the documentarian between experience and innovation”, *Libraries Today*, 9, p. 159–166.

first, there would be a probability in a hundred thousand million that he would reply: "Ah, yes, Earth."<sup>29</sup>

To keep the balance between quantity and quality, the only practical way seems to be to improve the "describers' rendering" as much as possible thanks to the careful precision which emerges from a long library tradition.

Once the belief that the work of the "back-up scientific documentarian", expert in the interrogation of data bases, who can deal with everything, has been debunked, the contribution of the "documentarian, product of the critical conscience" must absolutely be recognised.

The accomplishment of this further level is nothing other than the realisation of the critical function of documentation and the heuristic function of information.

## 7. The number

Twenty-five centuries ago Pythagoras affirmed that "all is numbers", all is reason and with reason life and reality can be explained. Newton, putting aside myth and religion, reinvented the rules which govern the universe. Joseph Fourier, a remarkable physics-mathematician of the nineteenth century, maintained that "mathematical analysis is as extensive as Nature; it defines all the relationships possible. There can be no other universal language that is simpler, with so few errors and obscure areas, that is more worthy of expressing the invariable relationships of natural beings."<sup>30</sup>

The great minds of the 18th century, radicalising the ancient battle against theology, tried to build a theoretical defence to protect science from dogmatic influences. Thus, while the science of the 19th century "erected its constructions within absolute schemes, which depended on the certainty of being able to form universal and necessary truths, which enabled the world to be exhaustively described", at the same time tried to encourage a feeling of certainty that gave credence to the idea that

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<sup>29</sup> PEREC (George): 1989, *Getting around the use of the verb to live somehow*, in *Thinking/Classifying* (it. trans. Milan: Rizzoli), p. 13–15.

<sup>30</sup> FOURIER (Joseph): 1822, *Théorie analytique de la chaleur* (Paris: Firmin Didot), cit. taken from ISRAEL (Giorgio): 1991, "Hebrewism and scientific thought: the case of the Kabbalah", *Prometheus. International Journal of political science*, 15, p. 7–39, p. 25.

humanity was not totally at the mercy of nature and the universe as it had been at the beginning of history.<sup>31</sup>

At a conference held in 1901, the Italian mathematician Vito Volterra when describing "the link between the crisis of classical science and the introduction of models" did not hesitate to admit that many illusions about how to give a mechanical explanation of the universe had been put aside<sup>32</sup>, while Eugene P. Wigner, not so long ago, posed the problem of "the unreasonable effectiveness of mathematics."<sup>33</sup>

Today after the lesson of neopositivism, of the analytical philosophies and new mathematical, physical and epistemological theories, "scientism", based on the presumably infallible method by which all forms of knowledge should conform, has been overtaken by an image of science which seems to consider the notion of the "futura" of reality fundamental while constantly acquiring the characteristics of a "practical knowledge", which being open to the "possible", grows and increases by means of constant additions and integrations.

Having abandoned the hope of a unitary vision of the universe, the category of *necessity* has been substituted with *possibility*.

In this new dimension, in which the goals are always uncertain and difficult to achieve, the possible carries out a directive role, "becoming the logos of technics, or rather of technology".<sup>34</sup>

In this new dimension, our civilisation has assumed a physiognomy, the implications and outcomes of which we have probably still not grasped. Evaluations and theories only a few years old are often already obsolete and are not suitable for codifying what is actually happening.<sup>35</sup>

Therefore, "having surpassed the principle of the immutability of rules and systematic necessity", no decision can be considered final and

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<sup>31</sup> BISOGNO (Paolo): 1988, "Nature and environment", *Prometheus. International Journal of Political science*, 9, p. 65–104, p. 76; FORTI (Augusto): 1988, (*Introduction to*) *The death of Newton. The new scientific paradigm*, *ibid.*, p. 9–16, p. 9 and 14; CLEVELAND (Harland): 1988, *Three Hundred Years after Newton*, *ibid.*, p. 17 and 22.

<sup>32</sup> The cit. is taken from ISRAEL (Giorgio): 1996, *The mathematical vision of reality* (Rome–Bari: Laterza), p. 7.

<sup>33</sup> WIGNER (Eugene P.): "The Unreasonable Effectiveness of Mathematics in the Natural Sciences", *Communications in Pure and Applied Mathematics*, 13, p. 1–14, cf. ISRAEL: 1966, p. 9.

<sup>34</sup> BISOGNO: 1990, p. 15.

<sup>35</sup> SANTORO (Marco): 1997, "Written and audiovisual culture", *Literary Experiences*, I, p. 3–25, p. 8.

no goal definitive, but all evolve unceasingly towards possible new goals, which branch out into others and these other goals unfold into still more goals, like a game with mirrors: a place of experimentation of future realities destined to fascinate but also to lead towards a sense of *estrangement*.

The use of signs, the interpretation of symbols, the production of meanings constitutes the essence of all human activity as *traces* of something which has occurred, of an absent structure.

In everyday situations, the vast and extremely rapid circulation of heteronomous behavioural models constantly corrodes common sense, and consequently, a rupture wide enough to split society is created between formalised or specialised scientific languages in particular and standard language.

Thus even the categories of intuition, space and comprehension are likely to be modified, and if it continues at this rate it could reach the point where the shades of "things", as in Plato's metaphor of the den, may be mistaken for the true "things". More directly, Gusdorf says in fact that "modern man, without wishing to, has abandoned the land of reality as a presence and as carnal density, for the shades of mathematical essences, of the relations and equations considered truer than reality."<sup>36</sup>

A man who cultivates his garden, as Voltaire would have liked.

Those who are happy that music exists on this earth

Those who discover an etymology with delight.

Two employees silently playing chess in a café in the South.

The potter who ponders a colour and a form.

The typographer who skilfully composes this page which he perhaps does not like.

A man and a woman who read the final tercet of a certain song.

Those who pat a sleeping animal.

Those who justify or want to justify the ill that has been done to them.

Those who are happy that Stevenson exists on this earth.

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<sup>36</sup> GUSDORF (G.), *Révolution galiléenne*, in *Encyclopædia Universalis*, III, p. 445; for cit. v. BISOGNO: 1990, p. 15 and 17; and cf. BISCUSO: 1987, p. 23; NEGROTTI: 1990, p. 92; BORGHINI (Alberto): 1993, "The metaphor in metasystematic prospective", *Linguistics and Literature*, 1-2, p. 69-114; AURISICCHIO (Alessandro): 1995, "Metaphor, redundancy and ambiguity in scientific imagination", *Belfagor*, 2, p. 133-156, p. 234; ROSSI (Alberto): 1993, *Science of nature and science of man: forgetfulness and memory* (Padova: Muzzio), p. 18-19; TITO ARRECCHI (Fortunato): 1989, "The method of physics and its constitutional limits", *Culture and Books*, 52, p. 5-19.

Those who prefer other people to be right.  
 These people, who are unknown, are saving the world.<sup>37</sup>

## 8. The enigma

Alexander Koyré wrote:

There is something Newton must be considered responsible for—or rather, not only Newton, but modern science in general: it is the division of our world in two. I have said that modern science has broken down the barriers which separated the heavens from the Earth, that it united and unified the Universe. This is true. But it did so by substituting another world for the world of quality and sensitive perceptions, the world in which we live, love and die: the world of quantity, of glorified geometry, the world in which, although each thing has its place, has no place for mankind. So the world of science—the real world—became further removed and was entirely separated from the world of life, which science was incapable of explaining—even of giving a subjective elusive explanation. In truth these two worlds are every day and ever more united by praxis. But as far as theory is concerned they are as separate as an abyss. Two worlds: which means two truths. Or no truth at all. And this is the tragedy of the modern spirit which solves the enigma of the universe, but only to substitute it with another: the enigma of itself.<sup>38</sup>

The Persian mystic Farid al-Din Abū Talib Muḥammad ben Ibrahim Attar writes about birds in the tale entitled *Mantiq al-Tayr* (*Birds Conversing*), and which Borges synthesises in these terms:

The remote king of the birds, Simurg lets a splendid feather drop down into the centre of China. The birds tired of their ancient anarchy, decide to go and look for him. They know that the name of their king means thirty birds, they know that his kingdom lies within Kaf, the circular mountain which surrounds the earth. They throw themselves into this almost infinite adventure: they fly over seven valleys or seas; the name of the last but one is Vertigo; the last one is called Annihilation: Many of the pilgrims desert; others perish. Thirty, purified by their long trials, reach the mountain of

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<sup>37</sup> BORGES (Jorge Luis): 1966, "The just", in *The number, 46 poems* (it. trans. Milan: Mondadori), p. 47–48; [eng. trans. GIBLIN (Teresa)].

<sup>38</sup> KOYRÉ (Alexandre): 1968, *Études newtoniennes* (Paris: Gallimard), p. 42–43.



Simurg. They look at it for a long time: they realise that they are the Simurg, and that the Simurg is each one of them.<sup>39</sup>

In the expanse of exterminated waters, something could be seen rising in only one remote point, perhaps the *Ka*. *Ka* means *Who*? And so we go back to the age old question: who is Who? "It was once again time to take flight."<sup>40</sup>

Sophocles puts a king on the stage who deciphers enigmas and who is required to decipher the horror of his own destiny.<sup>41</sup> Samuel T. Coleridge affirms that the philosopher knows that he cannot declare the truth without telling a lie, and for this reason he is obliged to express his thought either "mythically or equivocally".<sup>42</sup>

In his *Elogy on madness*, Erasmus of Rotterdam says that philosophers boast unduly that they are the only ones who understand anything, whilst in reality, they only manage to confound "others' ideas with triangles, squares, circles and similar geometrical figures, one on top of the other in a kind of labyrinth, one moment with letters lined up like an army about to do battle, sometimes displayed one way and sometimes in another."<sup>43</sup>

If, after studying the centuries and the stars, analysing the various ramifications of effects and causes, the uncertainty of the den weighs heavily on the axioms of geometry, and philosophers can transform the dogmas of cathedrals into enigmas, it is not to be wondered at if Borges's man decides to draw the popular world as "a space with images of provinces, kingdoms, mountains, bays, islands, fish, homes, instruments, stars, horses, people". Shortly before he died, instead of giving the world another Lazarus, "he discovers that patient labyrinth of lines traces the image of his face."<sup>44</sup>

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<sup>39</sup> BORGES (Jorge Luis): 1955, "L'accostamento di Almotasim" in *Babel's Library* (it. trad. Turin: Einaudi), p. 36-43, p. 42.

<sup>40</sup> CALASSO (Roberto): 1966, *Ka* (Milan: Adelphi), p. 461.

<sup>41</sup> Cf. BORGES (Jorge Luis): 1973, "Quevedo", in *Other Inquisitions* (it. trans. Milan: Feltrinelli), p. 42-48, p. 42.

<sup>42</sup> COLERIDGE: p. 106.

<sup>43</sup> ERASMUS OF ROTTERDAM: 1995, *Elogy on madness* (it. trans. Rome: Newton), *passim* p. 62-64; BORGES (Jorge Luis): 1963, *Epilogue in The artefice* (it. trans. Milan: Rizzoli), p. 207.

<sup>44</sup> BORGES: 1973, p. 118.

## 9. Hope

“God created twenty-two fundamental letters, he designed them, he carved them, he arranged them, weighed them, bartered them and with them produced what there is and will be”. In *Phædrus* it is explained that fertility and the flow of human actions are proportionate with the vision that the soul had while still in the “plain of truth”: in *Cratylus* it is claimed that the model of things is found in their name: in the letters of ‘rose’ there is the rose itself, all the Nile exists in the word ‘Nile’.

It is said that shortly before Giambattista Marino died he glimpsed the essence of the world in a yellow rose, when he understood that that rose mirrored the world which Adam and the Angels had in the Garden.<sup>45</sup>

The metaphysics of Science has always been influential but it has often had a mystical side too. So much so that axiomatically, M. d. Chenu believes that “what makes theology a science is that which makes science mystic.” And many of the ideological suppositions of certain scientific programmes (like the everyday ones of artificial intelligence) seem to be, together with other baptisms, a return to magical and mystical themes in the unlimited creative capacity of man.<sup>46</sup>

In mythology Atlas was said to support the world on his back: later, a famous visionary recounted how he had seen St. Thomas’s finger turning the world around.<sup>47</sup>

Try to imagine what a person could do if he believed he was stronger than Atlas and able to trace, more precisely than Mirino, the mystery of the morphology of the word rose: he could perceive the danger that, abandoned by Ariadne, he might hear the lowing of a minotaur, proud to renew the prophecy which postulates the infinite language of algebra as an absolute.

Orpheus who lived eleven generations before the war with Troy, trusted music and poetry to ask “the gods of the hidden world” to restore his beloved Eurydice to him.

From the tale of the shameful love of the Queen for her lover, Paolo and Francesca found a pretext for their passion. They betrayed Malatesta,

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<sup>45</sup> Cf. BORGES: 1973, p. 61.

<sup>46</sup> The cit. from Father CHENU is taken from: GEFFRÉ (Claude): 1991, “New scientific and technological practice”, *Prometheus*, 15, p. 71–90, p. 77.

<sup>47</sup> Cf. BLOY (Léon): 1968, *Exegesis of common places* (it. trans. Milan: Edizioni Paoline), p. 34.

and have shared every tale and every pain of all lovers since the times of Adam and Eve.

Schopenhauer wrote "life and dreams are pages of the same book, and reading them in order is living; flicking through them at random, is dreaming"<sup>48</sup>: philosophy pays homage to poetry when Étienne Gilson confirms "when dealing with language the philosopher (and also the linguist) is only the annotator, the poet is the reality."<sup>49</sup>

And so, those who insist that they be guests and not citizens of the artificial do not run towards a "dishonourable" defeat: just like Hector, who as the sun set, could flee without diminishing himself, making the clessidra disobey the measures of time, they may continue to fantasise with the typographical maps of Ariosto, who from the palaces of Ferrara wrote that dreams lost in time take up residence on the moon.

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<sup>48</sup> Cf. BORGES: 1973, p. 28; cf. BLOY (Léon): 1963, *The soul of Napoleon* (it trans. Milan: Edizioni Paoline), p. 34.

<sup>49</sup> PECCENINI (Roberto): 1990, "Science of language and metaphysics in Étienne Gilson", *Culture and Books*, 63, p. 17–21, p. 21; and cf. GILSON (Étienne): 1986, *Linguistique et philosophie. Essai sur les constantes philosophiques du langage* (Paris: Vrin, 3<sup>e</sup> éd.); JACOB (André): 1980, *Introduction to the philosophy of language* [Translation from Italian into English by Dr. Teresa Giblin, University of Catania] (Bologna: il Mulino), p. 245.