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Cybergeo and the Electronic Scientific Journals

Cybergeo et les périodiques électroniques scientifiques

[Christine Kosmopoulos](#)

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Summary :

The purpose of this new topic is to bring elements of reflection on the contribution of the new technologies in the midst of the world of research, from the perspective of the distribution of scientific information as well as from the point of view of communication between the sciences. In this framework, we also wish to take stock of our experience in electronic publishing, and to undertake a comparative presentation.

Key words : electronic publishing, research, new technologies, science, communication, knowledge, network, journal

Résumé :

L'objectif de la nouvelle rubrique "Science et Toile" est d'apporter des éléments de réflexion sur l'apport des nouvelles technologies au milieu de la recherche, tant du point de vue de la diffusion de l'information scientifique que de la communication inter-scientifique. Dans ce cadre, il s'agit ici de faire le point sur notre expérience de la publication électronique et d'entreprendre une présentation comparative.

Mots clés : nouvelles technologies, science, recherche, édition électronique, communication, savoir, réseau, revue

Introduction

This month, *Cybergeo* is celebrating its sixth birthday, a lifespan that is not insignificant for this type of publication springing from the electronic, but whose staying power, which has been strongly supported by the participation and commitment of the teachers and researchers who contribute to it, should not deceive us. It seems necessary to clarify the position of the journal in an environment that is

undergoing constant development, to assess its impact, to reflect on the choice of editorial support and on its function, to enable us to anticipate the scientific publishing of tomorrow, and to provide answers to the new needs that are emerging. It will therefore be a question of providing a diagnosis of its inadequacies, and at the same time, to formulate new goals. This study makes no claim to being exhaustive, which is why, in a spirit of interaction, I invite all those who wish, to add to it by sending an e-mail. We will then be able to include their commentaries in the text that follows.

I. Defining *Cyberge*

In order to launch this work of reflection, we need to understand what *Cyberge* represents; and yet there is more than one answer. Indeed, the journal presents a plural reality, and cannot be reduced to a single description. It is:

- an **electronic scientific journal that is distributed without cost.**
- a journal of **geography** (it exists at the initiative of geographers)
- a journal of the **social sciences** (as is explained in the editorial plan)
- a **European** journal (it is supported by an international committee of readers, and publishes articles in all the European languages)
- a **French** journal (by virtue of its location)

These different characteristics are the expression of a state of mind as much as of an intrinsic intention to advance. They coexist on two levels, which closely link the content to the potentialities of the support system: to the actual reality and to the virtual reality. On the side of the actual reality can be placed publications that are primarily 'geographical', while on the side of the virtual reality is found a project of thematising common to the social sciences represented by columns based on the possibilities of the electronic medium. In this sense, research according to key words (in at least two European languages) in the sites of classification reinforces interdisciplinary relations, and increases the visibility of the articles. At the same time, the driving force behind research opens access to the scientific publications to a larger public, specialist or non-specialist, thereby creating a true democratization of science that has been long promised or proclaimed, but which remains completely exceptional. The choice to publish in any of the European languages is part of this willingness to be open, and contributes to an even larger distribution of the publications.

II - A Brief History of Electronic Scientific Publishing

The interest of the new technologies for scientific research was brought to the light by Paul H. Ginsparg. In 1991, he created the [e-print server](#) of Los Alamos. His purpose was to gain time, and to make visible the results of research even before the journals had given their opinion on the publication of the articles. This project

experienced considerable success in the 'hard' sciences, disciplines in which the publication dates are of capital importance and the discoveries involve financial stakes. On the site to this day are 70,000 online pre-prints, and 3,000 proposals a month. The site lists 150,000 connections per day.

In 1996, Denise Pumain founded *Cybergeo*, the first electronic journal of geography, and the following year, in [Environment and Planning A](#), launched a debate entitled "Are cyberjournals a promised land for research communication?", in which she presented the advantages that the scientific community could draw from this new form of publishing, while insisting at the same time on the risk carried by this immense information potential, and the difficulty of regulating it. In 1998, Sophie Wilkinson, in an article entitled "[Electronic publishing takes journals into a new realm](#)", in the *Chemical and Engineering News* review, expressed the view that electronic publishing is a new stage in the publishing revolution since Gutenberg in the 15th century. She cited a number of studies bearing on this transition, and on the adaptation to this new support system. It has been observed that the number of electronic publications has been increasing rapidly since 1995. Today most of the big publishers are deciding to put all their journals online. In 1998, the [Association of Research Library](#) (a consortium of 121 libraries of North American research institutions) listed 1,465 titles of journals that are available on the Web, including 1002 with a committee of readers. As has been shown in a study by Steve Hitchcock, *et al*, for the United Kingdom alone, no fewer than 3200 book titles were to be put online in 1999. Finally, since 1998, the number has doubled almost every year, and as the authors emphasize, interest has passed from counting the number of journals to studying the changes taking place within them

A "Prospective Study: the Francophone Digital Journals in the Human and Social Sciences" ("[Etude prospective : Les revues numériques francophones en sciences humaines et sociales](#)"), presented by Claire Lepeutrec under the direction of Ghislaine Chartron of the URFIST, took stock of the situation of electronic publications in France, and showed them to be well behind those in Anglo-Saxon countries. Because French law does not require digital journals to register copyrights, it is difficult to give very precise figures. However, it has been recorded that between 1988 and 1998, only 86 journals on digital support (that is, online, on disks or on CD Rom) have been registered at the ISSN France centre. An increase has been observed since 1998, because 100 new reviews with electronic support were listed as copyrighted for 1998 and 200 for 1999.

III – Who Publishes the Scientific Journals ?

- **The commercial international publishers:** Elsevier. 1300 publications. Announces that 4 million pages will be put on line in 2002, Academic Press, John Wiley, Springer, etc.... French commercial publishers: Sedes, Armand Colin, Editions de l'EHESS, La Découverte, etc.... There is a fee for access to the complete texts.
- **Scholarly societies, research organizations** (The Royal Society of Chemistry, the American Chemical Society, the Society of Geography, the CNRS, etc.). The price

for access is minimal.

- ‘**Alternative models**’ that is, independent journals that are published by the researchers themselves, which are attempting to re-appropriate their productions (Psychology, the Open Archives Initiatives, the Los Alamos server). Access to the complete texts is free. In 1998, there were only 8 journals of this kind out of the 1500 titles that were online.

"The big international publishers have invested heavily in digital. Different partnerships have also come into being between the editorial boards of the anglophone journals and different technological agents" ([Charton, mai 2000](#)). In France, on the other hand, publishers are hesitating to launch into digital publishing, for two primary reasons: - a legal question: no law is in effect in relation to royalties and the cost in training or in hiring.

IV – Journals in the Human and the Social Sciences

The Virtual Library of Periodicals in Canada ([La bibliothèque virtuelle des périodiques au Canada](#)) is a useful source of information. It attempts to list all the free electronic francophone journals. At present 450 periodicals are listed there, including all types of publication, not just scientific. From this counting there emerge ten electronic publications in geography (table 1). In connection with the 36 journals listed in C. Lepeutrec’s [Etude prospective : Les revues numériques francophones en sciences humaines et sociales](#), based on the Institut de géographie’s collections of periodicals, I have listed only 8 journals below (which are indicated by *), as the others only allowed access to summaries.

Table 1 - Francophone Electronic Journals in Geography with the Possibility of Online Access to the Articles

	Strictly electronic	Free access	Peer review	Details
Cahiers de géographie du Québec*	No	Yes (partially)	Yes	University journal
Cybergeog*	Yes	Yes	Yes	University journal
Eurêka info*	Yes	Yes	Letter of info	University source
Eurasie	Yes	Yes	magazine	
Espace Latino	No	Yes (not all articles online)	No	Established in Lyon. Functions by subscription
Georama*	Not accessible since January 2001	Yes	magazine	IGN

Géographie physique et quaternaire*	No	Yes (available in electronic version until 2000)	Yes	University site for distribution of journals : Erudit
La lettre d'Intergéo*	Yes since 2001	Yes (since 2001)	Letter of info	CNRS
Cahiers/Agricultures*	Non	Yes (except for the present year)	Yes	Commercial Editor : John Libbey
Sécheresse*	Non	Yes (except for the present year)	Oui	Commercial Editor : John Libbey

We note in the table below only 3 publications that are strictly electronic, but only [Cybergeog](#) meets the criteria of scientific validation, that is, includes a peer review.

Twenty strictly electronic francophone journals have been listed in the human and social sciences, among which we should indicate the several scientific journals with a committee of readers: *Cybergeog*, *Surfaces* (comparative literature), *Solaris* (Sciences of Information and Communication), magazines (*Georama*) and Letters of *Information (Eurêka)*.

Table 2 - Francophone Electronic Journals in the Social Sciences with the Possibility of Access to the Articles

	Strictly electronic	Free access	Peer review	Details
Anthropologie et Société	No	No	Yes	University journal
Population	No	Yes (to abstracts)	Yes	Revue de l'INED
Réseaux	No	No	Yes	Recognized by the CNRS - Journal devoted to reports between technique, communication and society
Revues.org (french)	No	Yes (to abstracts)	Yes	Federation of journals in human and social sciences
Cahiers canadiens de sociologie	No	Yes (to abstracts)	Yes	University journal

From the above table, it can be seen that none of the journals is new and has a free access. All the journals listed are electronic versions of publications on paper, and only allow access to the articles in certain cases.

Table 3 - Strictly Electronic European Journals in Geography with a Committee of Readers, Offering Access to the Articles

	Strictly electronic	Free Access	Peer review	Details
Demographic Research (Institut Max Planck)	Yes (since 1999)	Yes	Yes	University journal
Geocritica 3W (Scripta Nova, Revista Bibliografica....)	Yes (since 1997)	Yes	Yes	University journal
Populations et Politique (EHESS)	Yes (only 1997-1998)	Yes	Yes	University journal
Revista Electronica de Derecho Ambiental	Yes (since 1997)	Yes	Yes	University journal (publication in European languages)
Cybergeog	Yes (since 1996)	Yes	Yes	University journal (publication in European languages)

Of note **in the United States:**

Table 4 - Peer Reviewed Electronic Journals in Geography, Offering a Free Access to the Articles

	Strictly electronic	Free access	Peer review
African Studies Quartely	Yes (since 1997)	Yes	Yes
Online Planning Journal	No (on line since 1997)	Yes (some articles)	Yes
Geography on line	Yes (since 2000 : 3 issues -last publication : April 2001)	Yes	Yes

In the midst of an almost nonexistent representation of geography journals on the Web, *Cybergeog* appears to be a unique experience in francophone electronic scientific publishing, and as a pioneer on a European scale, where there are still few initiatives. *Cybergeog* combines the following features:

- meets the criteria for being truly scientific (a committee of readers)
- has a form of publishing and management that is exclusively electronic
- offers free access
- has the unusual feature of being run by researchers themselves
- has 'Seniority'

V – On the Interest to be Found in Electronic Publishing

Until the present time, most of the electronic journals have been transpositions of journals published on paper, and this is why they remain very similar in appearance and in their structure. We should therefore not be surprised that they are still used in a ‘classic’ manner. For [Paul Ginsparg](#), "The essential question for ‘Electronic Publishing in Science’ is how our scientific research communications infrastructure should be reconfigured to take maximal advantage of newly evolving electronic resources". One of the stakes for the future will be precisely how to adapt the formats to the electronic support, and not follow a commonplace, ordinary presentation; in other terms, to offer a publication with ‘added value’ – to use Peter Boyce’s term -, irreducible to a paper format. [Paul Ginsparg](#) even proposes renaming electronic publishing in order to mark clearly the break with the paper form, and to better reveal the specific character of this form of communication: "Rather than ‘electronic publishing’, which connotes a rather straightforward cloning of the paper methodology to the electronic network, many researchers would prefer to see the new technology lead to some form of global ‘knowledge network’, and sooner rather than later".

Through *Cybergeo*’s experience, we can already observe a new mode of editorial production emerging:

- The focus is on an article, not on a particular issue of a journal, thematic or not, as has been the case traditionally
- By means of a summary or a system of cross-referencing between the articles, the reader has instant access to all the preceding issues (articles)
- Indexing is adjusted to the driving force behind research, in an interdisciplinary dimension

All of this contributes to improving the visibility of the publications, and substantially increases the number of citations, from + 286%, as is shown in a study carried out by Steven Lawrence "Free online availability substantially increases a paper's impact" ([Webdebates, Nature 2001](#)).

In order to modify uses and stimulate interactivity, we must attempt to make the most of the intrinsic capacities of electronic publishing. The perspective of editing ‘composite’ articles, in [Hervé Le Crosnier](#)’s expression, which would make it possible to have access to a wider pool of information, as well as information of various types, is full of promise. One could also imagine including, among other things:

- the different versions that have gone before
- the commentaries of peers
- the reactions of readers
- Video illustrations or simulations, or source documents and data
- appendices

- a summary of the article in hypertext
- links to the articles cited

Conclusion

Cybergeo is an exception in the midst of the world of electronic scientific publishing, for several reasons: first of all, because the human and social sciences are the poor cousins of research, and the great majority of the journals that are published in digital format are journals of the 'hard' sciences, and furthermore, the French are not yet very much involved in electronic publishing; next because more than 99% of the journals that are online are digital versions of journals on paper, and finally, because the great majority of electronic journals offer only limited access, as access to the articles in their entirety entails a fee, and the rates are not very economical for readers.

The very high proportion of Anglo-Saxon journals is an indication of the advantage of electronic publishing over publishing on paper and the unavoidable character of this tool for the scientific community. Thanks to a content that has been strongly enhanced in comparison with the paper format, the status of the article itself has changed. It is no longer conceived as a fixed entity, closed upon itself, but is seen as progressive and relational. Are we really in the process of experiencing a mutation? We all know that it is always very difficult to express a view about something for which we have no distance, no possibility of hindsight, but as initiators and producers of a scientific electronic journal, we cannot afford not to anticipate and encourage the development of this new medium.

Beyond the technical aspects of the dissemination of information, there are questions of a sociological and epistemological order, which introduce further retro-actions in scientific activity, and which have to do not only with a new medium of reading-writing and practices of knowing, but also with a strategy of communication (in the narrower as well as the wider sense of the term) on the part of the players in scientific research.

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