Appendix one

Building the Atlas of Cyberspaces

at-las *n., pl.* **at-las-es**. **1.** a bound collection of maps. **2.** a bound volume of charts, plates, or tables illustrating any subject.

This appendix outlines my personal role in the developing notion of cyberspace cartographies and is focused on the contribution of my research to scholarly knowledge in relation to building and maintaining the Atlas of Cyberspaces web catalogue for ten years[1].

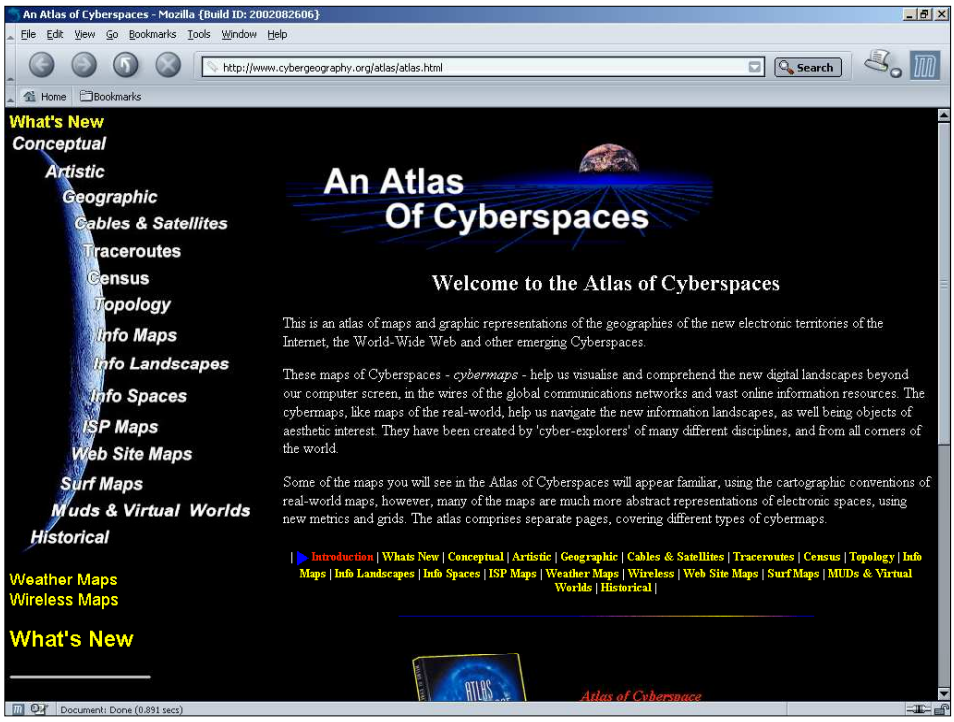

Figure A1.1: The front page of the Atlas of Cyberspaces web catalogue. The links on the left-hand side represent the high-level taxonomy of cyberspace cartographies presented on the site. (Source: <www.cybergeography.org/atlas>.)

[1] See <www.cybergeography.org/atlas>.

The significant part of my academic research time between 1995 and 2005 was focused on the understanding the geographies of cyberspace, what I have termed cybergeography[2]. The primary areas of concern in this research has been on analysing the spatial forms of the Internet and its supporting material infrastructures. The epistemological and philosophical approach I have taken is centred around the map as a process of knowledge construction and as social-material site for critique. The major methodological approach to achieve this has been the *Atlas of Cyberspaces* (Figure A1.1), a comprehensive web catalogue of the most significant published cyberspace maps. Examples in the Atlas are drawn from both the 'maps <u>of</u> cyberspace' and the 'maps <u>for</u> cyberspace' modes; the 'maps <u>in</u> cyberspace' mode is not covered. The Atlas began largely as a simple set of visual bookmarks to guide my research, but subsequently grew into a widely used and well known public resource that has helped to define the scope of cyberspace cartographies. Over the first six months of 2005, for example, it was receiving an average of eleven thousand visitors a week and according to the Google database it has 532 incoming web hyperlinks (equivalent to citations)[3].

The Atlas web catalogue remain freely available online and was continuously maintained and update for over tens years[4]. It was publicly announced in spring 1997 (via messages to various newsgroups and mailing lists; Figure A1.2) and expanded in scope as many new sections were added to index the diversity of maps and spatialization discovered. It comprises seventeen thematic sections, cataloguing 251 different cyberspace cartography examples[5]. Each item in the

[2] I began investigating this field in 1995 while a research assistant at Cardiff University and the research flourished, subsequently, at the Centre for Advanced Spatial Analysis, University College London with the support and encouragement of Professor Mike Batty.

[3] These figures exclude mirror sites and foreign language translations for which usage statistics were not obtainable.

[4] The primary URL for the site is <www.cybergeography.org/atlas>, with mirror sites provided by the Department of Geography, UCL <www.geog.ucl.ac.uk/casa/martin/atlas/atlas.html> and for the Australian / Asia-Pacific region at <http://cybergeography.planetmirror.com/>.

[5] The thematic categories are as follows: conceptual maps and diagrams, artistic representations, geographic visualisations, cables and satellites maps, traceroutes mapping tools, census maps, topology visualisations, information maps; information landscapes, information spaces, ISP maps, weather maps, wireless visualisations, web site maps, surf maps, muds and virtual worlds, historical maps. This classification mixes form and function, and reveals the evolutionary nature of the Atlas as a research tool.

Atlas contains representative visual image(s) of the map, a short descriptive text and hyperlinks to further reading/relevant Web pages. The whole resource has been translated by volunteers into French, Italian, Spanish and Portuguese[6]. In 2001 a 270-page long 'coffee-table' book version of the Atlas was published, co-authored with Rob Kitchin; whilst it drew heavily from the Web Atlas, it had many fewer examples and a simplified taxonomy.

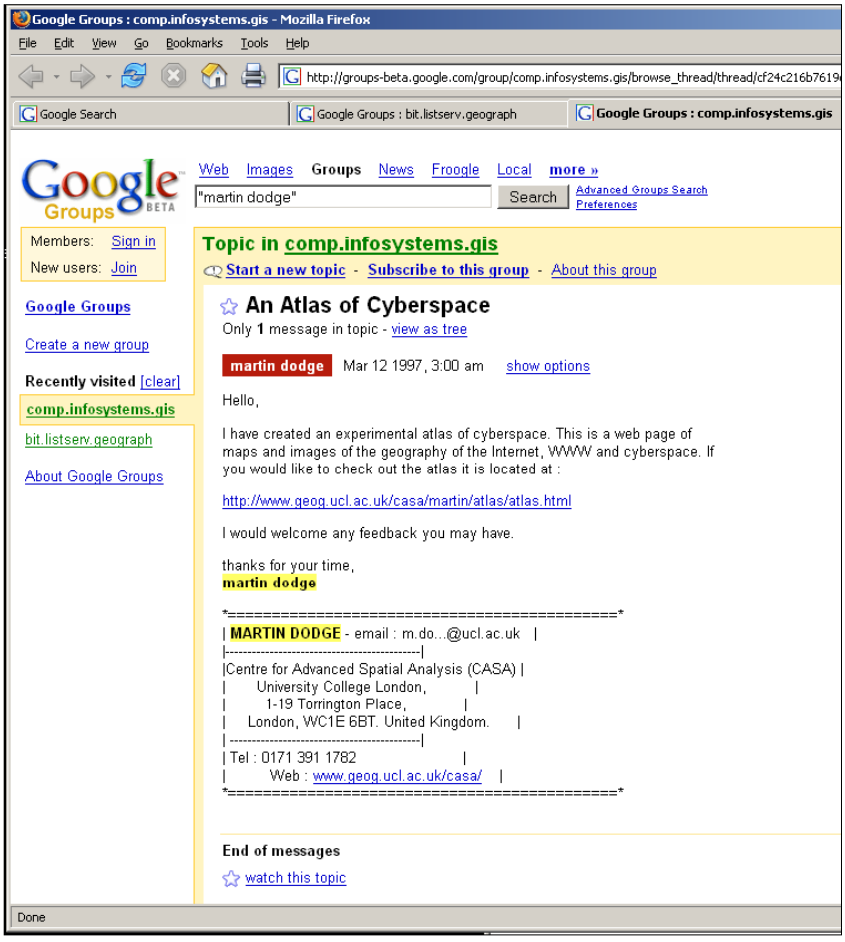

Figure A1.2: Original public announcement of the *Atlas of Cyberspaces* web catalogue, posted to the comp.infosystems.gis newsgroup in March 1997. (Source: <www.google.com/groups>.)

[6] The French language mirror site was maintained by Nicolas Guillard, <www.cybergeography-fr.org/atlas/atlas.html>.
Italian language mirror was initially created by Paolo Cavallotti and then maintained by Giuliano Gaia and Stefania Bojano, <www.mappedellarete.net/>.
Rodrigo Nóbrega maintained the Portuguese language mirror site, <http://cibergeografia.org/atlas/atlas.html>.
Emiliano Rodriguez Nüesch translated the Spanish language version, <www.cybergeography.org/spanish/atlas.html>.

My contribution to the analysis of cyberspace cartographies through the Atlas web catalogue has been primarily as a curator, surveying the diversity of examples, classifying and interpreting them and then assembling a selection into a structured typology for public display. The resulting Atlas presentation was the most comprehensive one produced by 2002 and has significantly greater value as a curated whole than the simply the sum of its parts (given as an unedited bibliography or set of bookmarks). As well as curating the Atlas on the web, I have described, interpreted and critiqued a wide range of cyberspace cartographies using various theoretical approaches. The results of these interpretative analyses have been disseminated to diverse audiences in a range of publications and presentations.

Collecting the cartographies of cyberspace materials required extensive fieldwork given the diversity of authorship in these two modes and the fact that no other catalogues or classifications existed when the project began in the mid 1990s. To a large degree this was 'virtual fieldwork' comprising many, many hours spent in front of the screen exploring cyberspace itself, trawling through search engines results, monitoring new corporate websites and homepages of individual researchers, as well as numerous other online resources. In addition, conventional library research and literature reviews were undertaken, along with a more limited amount of archival research of primary historical materials at the British Telecom corporate archives in Holborn and in the British Library map collection. In total over four hundred different maps (or interactive mapping projects / software systems) were researched under the criteria of 'maps <u>of</u> cyberspace' or 'map <u>for</u> cyberspace' modes[7]. The majority of these are archived and not displayed in the Atlas. Besides archiving copies of the cyberspace maps themselves, relevant supporting papers, descriptive Web pages, and biographic details on the creators were also kept. As part of the fieldwork process I also built a significant professional knowledge network, making personal contact with

[7] I have been limited to collecting *published* maps, i.e. those that are available in the public domain. It is certain that there are many more maps of cyberspace created by individuals, corporations and governments never released into the public domain, either because of reasons of confidentially and security, lack of resources or interest, or a belief that the maps are too technical and will, therefore, be of no practical use to the wider public. In addition, my researches have been largely restricted to English-language materials.

many of the map-makers and other interested parties through email, mailing list discussions and individual interviews. Twenty-two map-makers were interviewed via email by myself between 1999 - 2003 and the findings written up and published as 'map of the month' articles[8]. In totality, this collection of materials arising from the fieldwork represents a valuable contribution to the history of cartography.

As an information resource, the Atlas has had an impact within human geography discourses, for example it was highlighted by AAG president Duane Nellis in the *AAG Newsletter* (November 2002, 3) as a prime example of innovative new research which "documents the worldwide infosphere fostered by the internet that will surely be of growing importance as the millennials further transform the ways we interact within geography". While cartography theorist John Pickles (2004a, 194) in his book 'A History of Spaces' cites the Atlas in the conclusion arguing that it reveals the "conceptual flexibilities and political possibilities" of new cartographies that have "de-ontologized whatever we ever meant by modern cartography in ways that we are perhaps only beginning to recognize." Further, Pickles (2004b, 184) notes the Atlas "is rich and varied, and the maps illustrate well the geographically uneven nature of access, connectivity and interaction in this new 'world in the wires'". More importantly, the website has proven to be a productive medium to disseminate my research beyond the confines of geography, becoming visible in many other disciplines and outside academia. The website is also used as a teaching resource for many courses, across disciplines. The Atlas has also been cited frequently in the press (e.g., The New York Times, see chapter three, Figure 3.8). Lastly, it has acted as a catalyst in informing different groups about each others work, cross linking ideas and maps between information science, media studies, network engineering, artists, and designer, as well geography/cartography of course.

[8] These majority of these articles were published in *Mappa.Mundi Magazine* and usually involved a detailed examination of a specific example map that best represents a particular genre of cyberspace cartography, and, where possible, an interview with the mapmaker to determine their aims and intentions. All the articles are accessible from <www.cybergeography.org/>.

In addition to the Web catalogue, I have actively disseminated ideas about cyberspace cartographies to a diverse range of audiences through invitations to give talks at conferences, in departmental seminar series and to industry. For example, in 2001 I spoke in the Department of Architecture, Princeton University; in April 2000 I participated in a symposium at the Department of Design and Media Arts, UCLA; and more recently at the end of 2004 I gave a keynote presentation for a workshop on 'e-social science' at the School of Social Sciences at the Australian National University and an invited talk the Ordnance Survey in Southampton. Key published output also included two books, both co-authored with Rob Kitchin. These have been well received and cited; the first, Mapping Cyberspace (Routledge, 2000), currently has 81 citations according to ISI Web of Science. I have also written a number of other articles and book chapters considering different aspects of cyberspace cartographies, in which I have tried to meld together a technical understanding of their formal properties with some consideration of their wider social implications and cultural meanings (see Dodge 1998, 2000a, 2000b, 2002; Dodge and Kitchin 2000b). I have also fostered a network of researchers, scholars and practitioners from across the world and across multiple disciplines interested in cyberspace cartographies by publishing a regular email bulletin[9] and as the moderator of the mapping-cyberspace listserv[10].

In conclusion, the Atlas of Cyberspaces web catalogue acted as one of the key international knowledge hubs for cyberspace cartographies and virtual geographies. My researches as a whole have helped to define cyberspace cartographies as a coherent and legitimate field of academic enquiry.

[9] Located at <www.cybergeography.org/register.html>. It has been running since June 1997 to February 2004 and had 6,100 subscribers by the end.

[10] Located at <www.cybergeography.org/discussion.html>. It currently has over 500 subscribers.