

Kim H. Veltman

## **Promoting the Future of Online Culture**

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### **Abstract**

New media are introducing a host of new techniques and problems of method. We need to teach students about these problems if we are to prepare them properly for the future. The G8 can play an important role in this process by extending existing initiatives in North America (e.g. NINCH, Internet II, CANARIE) and Europe (European Research Area), to promote the emergence of a global research area. This would be a continuation of the G7's original vision of eleven pilot projects: specifically, 5 (multimedia access to world cultural heritage), 4 (libraries) and education).

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1. New Media
  2. New Problems of Method
  3. High Bandwidth Networks for Research and Teaching
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### **1. New Media**

Rapid developments in technology are quickly changing our notions of what is possible with respect to the Internet. For instance, a new chip recently developed at Keele University holds 14,000 gigabytes/square inch.<sup>1</sup> As a result one could include the full contents of the British Library on a credit card. Major developments are also underway with respect to nano-technology on at least four fronts, namely, electronic, biochemical or organic, mechanical and quantum.<sup>2</sup> One estimate claims that: "1 gramme of dried DNA can hold as much information as 1 trillion CDs."<sup>3</sup>

One consequence of these predictions is that we could literally hold in our hands the digital versions of the contents of many of the world's greatest museums, libraries and archives. A second consequence is that computers will disappear into everyday objects and the environment and lead to a new ambient intelligence.<sup>4</sup> Within two decades every object of culture could have its own computer which helps to describe its own history. If the world is ubiquitously imbued by self-aware objects, simple oppositions between subject and object, which have characterized much of Western thought since the Renaissance, no longer apply. The subject-object distinction needs revision.

### **2. New Problems of Method**

Many assume that the challenges of digital culture lie in scanning materials now in analogue form and that online culture merely entails virtual and imaginary museums. There is now specific software such as Infobyte's Virtual Exhibitor. Even off the shelf

software such as MacroMedia Director can produce examples such as the Museo Virtual de Artes El Pais (MUVA),<sup>5</sup> which is all the more impressive because it entails a fully realistic space which does not exist in the physical world. Whereas art books are typically limited to a few hundred or at most a few thousand images, the new networks can potentially make available hundreds of thousands, millions or even hundreds of millions of images.

The new media introduce a number of new techniques. They allow us to see different layers of a painting, which are under the surface. They permit us to introduce retrospective colour conversion, such that we can see how a now faded Hokusai print must have appeared when it was originally produced. They allow for a new contextualization of images. In the case of paintings where different fragments are scattered throughout two or more museums the new media allow us to reconstitute the original. They bring to light unexpected links between a print of Hokusai and the waves on the frontispiece of Débussy's *La Mer*. They can show us how familiar themes such as the *Three Graces* or the *Birth of Venus* continue to inspire art in the 20<sup>th</sup> and 21<sup>st</sup> centuries.

The new media also raise many new problems of method. In the 18<sup>th</sup> and 19<sup>th</sup> centuries it was often assumed that art had a single goal and that one could trace a simple, linear, progress of art (e.g. Winckelmann, Wölfflin). The 20<sup>th</sup> century introduced the idea of a number of goals including connecting, ornament, mimesis, copying, mixing and exploring (e.g. Gombrich). A new art history, which takes into account the global dimensions of these differing goals has yet to be written.<sup>6</sup>

In the West, there is a close link between the production of images and major religious (e.g. the *Bible*) and literary texts (e.g. Homer's *Iliad*, Virgil's *Aeneid* and Dante's *Divine Comedy*). In the East, this also true (e.g. the *Mahabharata* and *Ramayana* in India, the *Shahnamah* in Persia, the *Tale of Gengi* in Japan and the *Three Kingdoms in China*). One fundamental difference is that whereas the West favours the static, fine arts (painting, sculpture); the East often favours the dynamic, performing arts (theatre, music, dance, marionettes, etc.).

Another fundamental difference is that the West tends to use art to achieve "aesthetic distance," whereby a subject-object distinction is heightened. In the East, by contrast, art uses aesthetics to undermine a sense of distance, to unite the viewer with nature and thus to remove a subject-object distinction. In a world where all cultures are potentially online, we need new methods to distinguish between cultural, aesthetic traditions which seek to establish or remove subject-object distinctions.

At a theoretical level, there has been much attention to the potentials of new media for hyper-text and relatively little attention to their potentials for visual materials such as reconstructions. Three-dimensional reconstructions introduce the possibility of recreating physical spaces online and at the same time recreating depicted spaces. Infobyte's reconstructions of the spaces in Raphael's *Stanze* are an example. Implicit here is a new chapter in the history of art whereby students can learn to "navigate" through pictorial spaces of our cultural heritage.

The reconstruction of historical buildings, architectural ruins and archaeological sites, also introduces subtle methodological challenges. Sites of the past are easily idealized

and thus risk becoming "Hollywoodized," highly attractive but with little basis in reality. The reconstructions of the Basilica Ulpia by UCLA (Los Angeles) and CNR (Rome) are very different. Even within Europe, different reconstructions of Cluny vary considerably. We need new methodologies to make students attentive to such problems and to guide them in developing a critical stance with respect to images not unlike the methods of exegesis, hermeneutics and textual criticism, which have evolved in the realm of text.

In the case of a printed book we typically have 1) the book itself, 2) footnotes, 3) a bibliography and 4) sometimes direct sources. In the case of an electronic book we need the above plus 5) software and hardware parameters. In the case of electronic reconstructions we need, in addition 6) authenticity and veracity parameters (such as digital watermarks) and 7) methodology behind the demo (e.g. creator, basis of reconstruction).

Ultimately we need to go far beyond simple criteria for reconstructions. We need new methods which help us understand why a German reconstruction of Rome is very different than a French, or Italian reconstruction of the same site. *Welt-anschauung* is much more than a difficult German word. It literally affects the way we see the world. We need to appreciate this, understand this and yet not fall into a simplistic form of complete relativism.

Many of those concerned with online culture assume that the challenges lie mainly in scanning in existing sources. In so doing they risk imposing on the new media the limitations of an earlier medium. This is precisely the problem against which the late Marshall McLuhan warned. Print began by copying the methods of manuscript culture. The new media risk copying the limitations of print culture.

Print culture was linear and static. The new media are potentially non-linear and dynamic. Print was limited to creating a static list of paintings or books (the *catalogue raisonné*). Electronic media introduce the possibility of lists, which reflect changes in time and place. As such they introduce new possibilities of dynamic knowledge and culture. They introduce potentials of augmented knowledge and culture,<sup>7</sup> whereby we can look at the same fact, event, map or story from different viewpoints. This requires new kinds of metadata, which go beyond the ambitions of the Dublin Core. We need long term commitments to historical and cultural meta-data.

In the 19<sup>th</sup> century there was a trend towards an international viewpoint, which rhetorically placed the regional at a low level, the national at a higher level and the international at the highest level. The 20<sup>th</sup> century brought frequent tensions between regional and international (as in Barber's *Jihad vs. McWorld*) as if they were in opposition to one another. The 21<sup>st</sup> century offers potentials for a new synthesis, whereby we learn to see the value of both the local and the national/international, appreciating the complementarity of such views rather than insisting on their differences and seeming oppositions. One way to achieve this lies in virtual reference rooms,<sup>8</sup> which link materials from different levels and regions while respecting the inherent value of each.

Closely related to this challenge is the problem of synchronicity. We all know of the Italian Renaissance in the first decades of the fifteenth century, which we associate

with the names of Ghiberti, Brunelleschi, and Alberti. This same period of 1400-1430 was also the time of the new Town Hall in Brussels (1402); the Palace Museum in Beijing (1406-); the completion of the Torre de las Infancias in the Alhambra (Granada, 1408); the Ulugh Beg Madrasa in Samarkand (1417-1420); the Altar of Heaven in Beijing (1420) and the new Doge's Palace in Venice (1424). We need new art histories which make us aware of these parallel developments around the world, to help us understand that the idea of a Renaissance went far beyond Florentine Italy. It affected the whole world.

The developments in online software and hardware are creating global networks in technology and science, whereby generic, universal rules are being standardised through initiatives such as Industry Foundation Classes and the Standard for the Exchange of Product Model Data (STEP).<sup>9</sup> Such standards provide general rules for making safe doors but no hints about creating unique doors. There is thus a new challenge of making our knowledge of unique, particular doors accessible to those concerned with generic standards for doors and other building elements. The new media thus bring back into focus the old debates of universals and particulars at a new level.

### **3. High Bandwidth Networks for Research and Teaching**

The above examples confirm that new media are introducing a host of new techniques and problems of method. We need to teach students about these problems if we are to prepare them properly for the future. Here we encounter a curious impasse. We have wonderful demonstrations of 50 Megabytes to 5 Gigabytes. Ironically we have also created wonderful high-speed networks (Internet II, CANARIE, TEN 155 etc.), but these demonstrations are not available on the networks. To teach students we need access to the best examples of the past twenty years, but these are not available on-line except as summary web pages. We are expected to teach students about the potentials of technologies, which are not available for regular use.

This is an area where the G8 can play a role. At the G7 Conference and Exhibition on the Information Society (Brussels, February 1995), eleven pilot projects were announced. Pilot project three was devoted to education, four to libraries and five to Multimedia Access to World Cultural Heritage. The good news was that this initiative helped to inspire the European Commission's Memorandum of Understanding for Multimedia Access to Europe's Cultural Heritage. The bad news was that there was "no money" for the pilot projects. If the G8 wishes to be taken seriously in this domain its challenge lies not so much in beginning new projects as in assuring a new integration of a number of existing initiatives.

The idea of cultural networks is not new. The European Commission has sponsored a number of projects in this direction such as RAMA (Remote Access to Museum Archives), AQUARELLE, and VAN EYCK. Within the MEDICI framework there was the vision of a Network of Centres of Excellence. At the Lisbon Summit of the European Union (March 2000) there was a new vision of an e-Europe. An important aspect of this vision was Philippe Busquin's idea of high-speed networks linking researchers in order to create a European Research Area (ERA). Initially the prime concern is in the realms of science (high-energy physics, bio-technology). This idea

should spread to the realms of culture, libraries and education not just within Europe but globally.

A fundamental stumbling block in the high-speed networks is that they are typically on a national basis. Hence, it is relatively feasible to exchange knowledge/information within one's own country, but almost impossible to exchange it beyond one's borders due to lack of reciprocal agreements which results in astronomical carrier fees. A number of bodies are concerned with these challenges. There has been interest in co-operation between UNESCO and the World Bank. There is concern on the part of the OECD, ITU, INET, WWW and the Global Knowledge Initiative (GKI).

Here the G8 can provide a new framework, which makes it possible for students around the world to have access to the best materials, which are already available in local databases in order to prepare them properly for the future. This will require mainly political will. The contents exist and the networks exist. The challenge lies in providing the networks with content, which can inspire students today and prepare them for tomorrow.

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#### Notes

<sup>1</sup> See: [http://www.compaq.com/rcfoc/20010226.html#\\_Toc507314934](http://www.compaq.com/rcfoc/20010226.html#_Toc507314934)

<sup>2</sup> See: <http://www.mitre.org/research/nanotech/futurenano.html>

<sup>3</sup> "DNA takes shape", *BBC News*, 12 January 2000.

<sup>4</sup> See: <http://www.research.philips.com/generalinfo/special/ambintel/index.html>

<sup>5</sup> See: <http://www3.diarioelpais.com/muva/>.

<sup>6</sup> Cf the author's "Goals of Culture and Art," Lecture to the IIC, Kuala Lumpur, September 1999. (<http://www.mmi.unimaas.nl> also on the site of the International Institute of Communications, <http://www.iicom.org>). Published electronically in TRANS. Internet-Zeitschrift für Kulturwissenschaften, vol. 1, Vienna.

See: <http://www.adis.at/arlt/institut/trans/ONr/veltman1.htm>.

<sup>7</sup> Cf. the author's *Understanding New Media: Augmented Knowledge and Culture*, (in press).

<sup>8</sup> This concept is being explored in an EU IST project called IMASS.

<sup>9</sup> See: <http://cic.vtt.fi/links/step.html>.