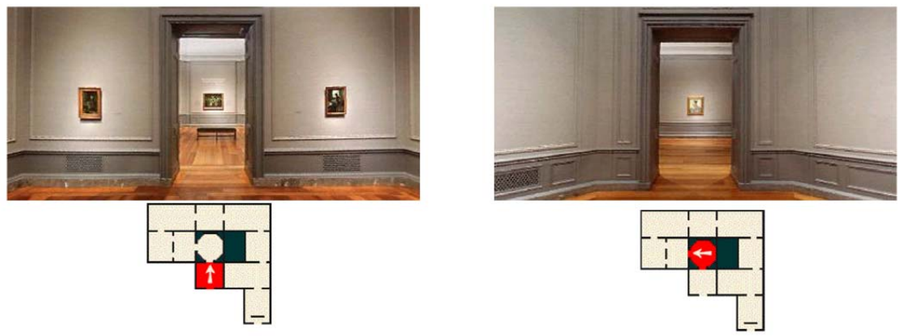

Fig 3.1
Virtual Museums
(http://www.nga.gov/exhibitions/)

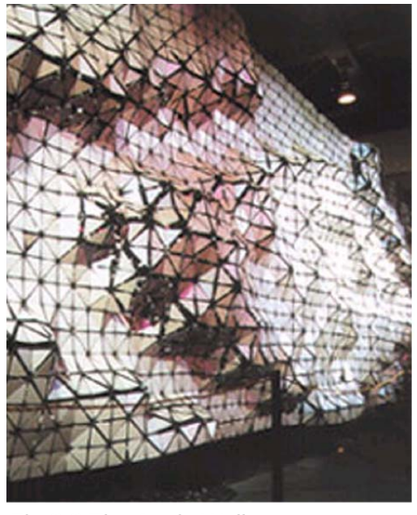

Fig 3.2 The Aegis Wall.
(www.dj.ru/files/gallery/33/740_30.jpg)

Digital Realm

3. Digital Realm

3.1 A brief introduction to Digital Culture

The question concerning global computer networks is whether they are being built to meet the needs of science and technology without sufficiently including the needs of arts and culture. To formulate an answer, subdivisions of digital culture can be identified as follows: The semantic web, virtual and imaginary museums, virtual reference rooms, reconstructions and augmented culture. Networks can be employed as a possible means of addressing these issues. (Veltman KH, Developments and Challenges in Digital Culture.2001:1)

3.2.1 Virtual and imaginary Museums

By 2001, more than 8000 virtual museums existed in Italy alone and they still only show a very small percentage of what is available in museums themselves. The exhibition sizes of virtual museums are limited by bandwidth, while the exhibition size of real museums are limited by floor area. The good thing about virtual museums is that they are accessible to anyone who has an internet connection, no matter where they are in the world, but the down side is that one loses the context in which the museum exists (site, area, country, history and contextual culture).
Vector graphics allows for museum reconstruction in virtual space, but these are artificial, are sometimes not updated regularly with museum changes, or contain incorrect museum information. (Ibid:3-5)

3.2.1 Virtual reference rooms

A virtual reference room can be seen as the search engine of the collective memory of mankind. It is a challenge to distinguishing between local, regional, national and global information/knowledge and generic information without a clear provenance. (Ibid:5)

3.2.2 Reconstructions

The idea of reconstructions is to digitally reconstruct cultural monuments and archeological sites in vector graphics for preservation without deterioration. Recent reconstruction projects tend to be resource intensive (in terms of RAM, disk space and program usage). The largest reconstructions today involve recreating the earth through the use of satellite images.
The question arises wether such a reconstruction of a cultural site a good substitute for visiting the physical landforms where degradation and aging is part of the cultural object? (Ibid:5-6)

3.2.3 Networks

In 1989 UNESCO and the Council of Europe established Networks for Cultural Development and a Cultural Information and Research Centers Liaison in Europe, along with a Cultural Heritage and Development Action Network. Digital networks are used by different organizations to correlate and combine all cultural data and information.
Networks can be established within individual countries and then linked to larger networks on a bigger scale without losing a sense of the local cultural scale which is sought through the network layers. In this way a Cultural Information Matrix takes shape. (Ibid:8-10)

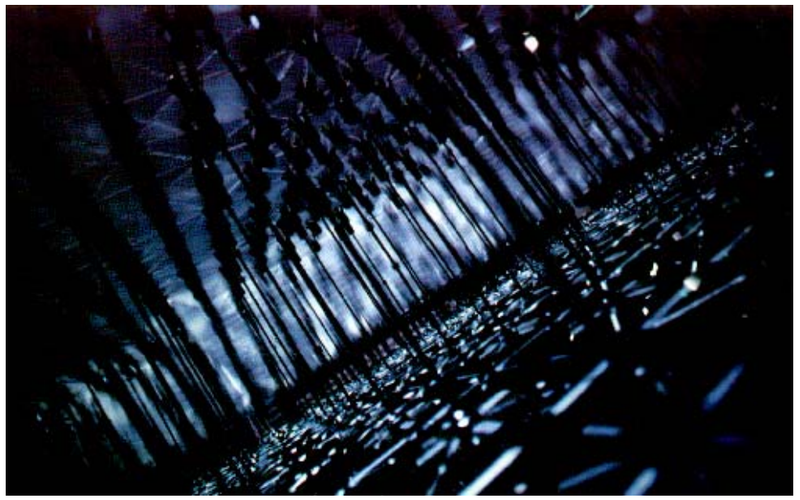

Fig 3.3a The Aegis Wall; Piston System (Leach N.2002:106)

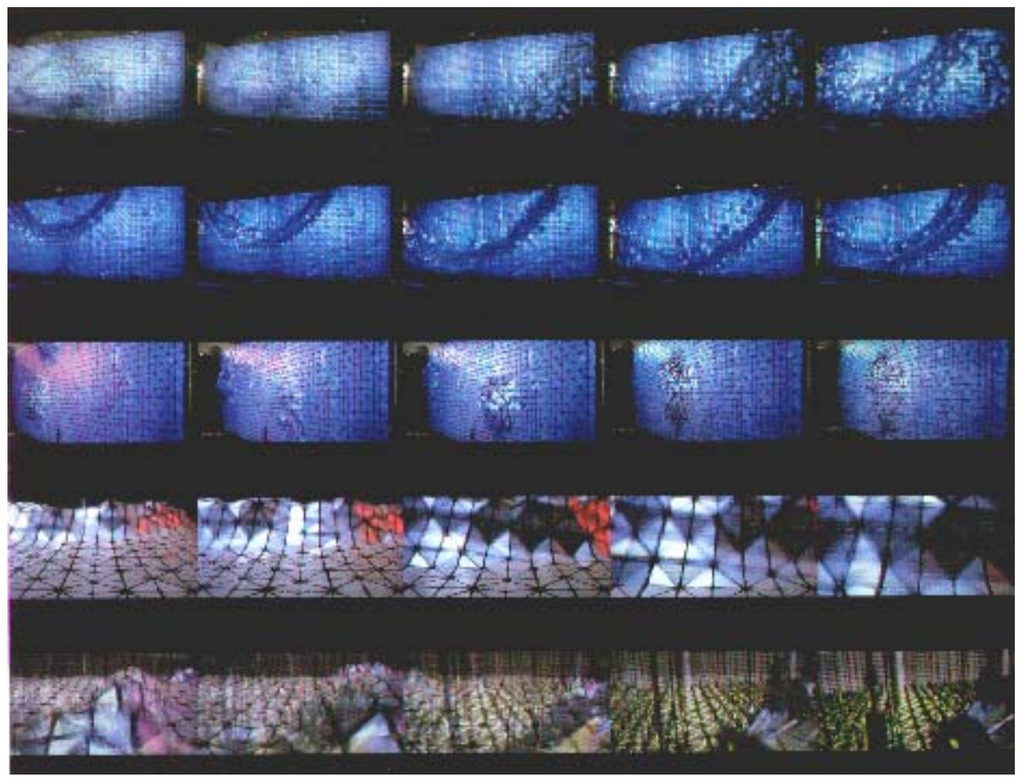

Fig 3.3b The Aegis Wall. An indication of the design's morphable properties (Leach N.2002:106)

3.3 A 'Smectic state' - The Aegis Wall

"Exploring what I believe are the two essentially new possibilities offered by computers - programmatic and parametric generative processes I realise that were creating not so much architecture as the possibility of an architecture which is born as a potentiality at the intersection of a matrix of variables"
- Goulthorpe M. *Designing for a Digital World.*2002:102

Mark Goulthorpe describes the Aegis Wall (Fig 3.3b) as: non-designed but formal and dynamic potentiality; alloplastic interactive artwork; animated architectural surface; and the digital dynamic surface morphing into a three dimentional space. The Aegis Wall is a physical structure that imitates the extreme dynamics of the digital and can be shaped and formed and reformed into any configuration. It is controlled by a computer allowing 1000 pneumatic actions every 0.01 seconds, and wavefronts propagating at 60kmh which displace 500 mm surfaces 2-3 times per second. The waves respond to sound movement. The cultural interest in such a project according to Goulthorpe is to determine new modes of creative and receptive possibility. (Goulthorpe M.2002:101-106)

The strength of the Aegis project in my opinion is in its attempt to merge the virtual and the analogue into a singular entity that allows the distinct border created by the computer screen to dissappear. However, the project is not true to the digital because it does so with a very real piston system (Fig 3.3a) that only creates an illusion of a three-dimentional digital entity.

Digital Realm

Now that different museum models have been examined, this study will identify what is to come in future museums. This study has investigated museums with norm breaking design, and delved into digital culture. Now a study will be done of a museum that is still to be built: The Great Egyptian Museum Project in Cairo – the inspiration for this project. This is done to understand the objective of the contemporary museum and what the museum model is evolving into, as well as how the contemporary museum incorporates digital culture into its programme.