

**BlackBOX: [<http://www.strangecities.net>]  
Painting A Digital Picture of Documented Memory**

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Abstract

**B**lackBOX: *Painting A Digital Picture of Documented Memory*, is a doctoral creative arts project, a digital media CD-ROM/Internet work that seeks to exploit and enhance the creative potentials of digitally produced music, sound, image and text relationships in an interactive & online environment. In this context, the delivery of interactive work provides an innovative approach to the conventional narrative & documentary forms. In *blackBOX*, the participant/player will experience music/dance performances revealed through interaction with (i) a set of virtual 'boxes'; and (ii) through the slippage across a series of interactive screen surfaces, engaging the participant/player in a spatial relationship with the program.

...It is inscribed, as on Pandora's Box... do not open...passions...escape in all directions from a box that lies open...

Bruno Latour, "Opening Pandora's Black Box", 1987.<sup>1</sup>

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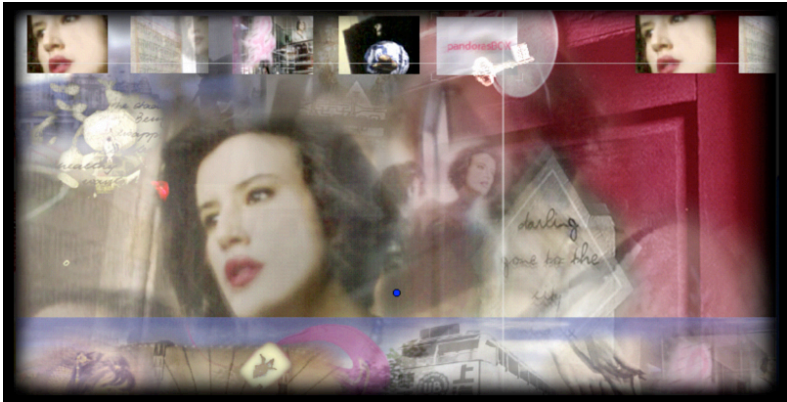


Figure 1 - *blackBOX* interface scrolling icons trigger text theorising the production

The creative research comes out of my practise as a digital media artist - a hybrid of processes & disciplines, but primarily through the lens of visual arts practise & the notion of 'electronic' (image/sound/text) writing. My central concern is to playfully reverse, obscure, distort the look of the dominating/colonialist gaze, in the production of an interactive 'game' & allow the girl to picture herself.

The research methodology is focused around the interrogation of a series of symbolic strategies that are realised in the production of the creative text: *blackBOX* a digital media work. 'blackBOX' is an emblem of a container for meaning of symbols, and is a symbol in itself, "...symbols possess a universal imagery and thus address themselves to the needs of specific individuals or cultures, but in a mythological and psychological language." <sup>2</sup> (Hockey: 2001) The idea of mobilising a series of myths cross-culturally is at play in the inner workings of the game device, in devising a computer interface strategy for this digital media work.

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Nina's [the protagonist's] journey is a struggle and search for virtual objects, whose meaning represent aspects of her outer world and reveals to her aspects of her inner self. This search, mirrors for the player/participant our own search through text and for self-understanding. In comprehending the text, we are provoked to consider the cultural artefacts that shape the individual and tap into a deeper reservoir of mythological ruins.

The work is comprised of an interactive CD-ROM & website URL <http://www.strangecities.net>, documenting and theorising the production.



Figure 2 – The key interface design metaphor a Chinese ornamental window frame

## **1. Synopsis**

*blackBOX* is an experimental interactive work authored for site-specific installation, with elements published on a creative research site <http://www.strangecities.net>. This immersive digital story emerges from protagonist Russian/Greek girl's movement through the metropolis. The objective for the player/participant is to explore the interactive Metropolis, through the digital experiences and sensations of the girl, and to discover three metaphoric 'Chinese Boxes' that contain three symbolic performances. The key interface design metaphor is a Chinese ornamental window. Interaction with this interface frames the digital media narrative. The girl discovers performances from three 'imagined' Australian diasporic communities - (i) Rembetika – the Greek blues; (ii) classical Indian dance & music (Odissi & Kuchipudi traditions); and (iii) fragments of Australian jazz performed by musicians from Russian origins.

## **2. Interaction Device Metaphor**

The interface design metaphor for *blackBOX* is an electronic stage/screen surface where performances appear as if conjured from the imagination, or a dream. The participant/player can explore the digital surface of the stage to reveal musical & dramatic performances; interact with a dynamic interface revealing interviews with the musicians and dancers, documentary fragments of performances; statements by artists and uncover text documents, newsprint articles, radio archives, television material, and other archives of related material. The action/performances appears within the immersive environment of a series of Byzantine (Greek), Sanskrit (Indian), and 1930s Chinese inspired screen frames. Electronic text and images in various assemblages, triggers embedded material – a visual/audio hypertext<sup>3</sup> (Landow: 1999). Traditional modes of story-telling & music are

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challenged in the interface design, where the user is provoked engage with the music and performances. This research project examines the ways in which discrete (traditional) musical & dance forms (forms of cultural representation) are mixing in the current context, creating a hybrid of different cultural forms. The work is simultaneously a digital archive and a critically reflective documentation of the metamorphosis of traditional cultural and musical forms, given the creative potentials opened up for cultural producers in the digitally manipulated performance, sound, image, and text environment of interactive multimedia. These 'compositions' provide perspectives on the emergence of a uniquely Australian contemporary sound/ culture that is an amalgam & integration of three diasporic genres of music. This is achieved specifically through the creation of 'electronic writing' – assembling the ensemble of fragments into image/sound/text 'compositions', where the musical analogy is an apt metaphor for the kinds of processes involved in the creation of the new media text.

### **3. The Observer/ The Observed**

The subjective protagonist Nina provides the character through which the player identifies and observes in the unfolding of the program. It is through her eyes that the events are perceived, translated, and it her projected imaginary/dreams that form the narrative cohesion of the story. The areas of interactive program content are mediated through Nina's voice, the voice of an Indian woman, fragments of a Chinese woman singing, and fragments of Greek musicians talking/singing. The voices are integrated with archival voice-over material, and atmospheres, suggesting the space of reflection for the stories.

Visual & sonic devices form signatures marking out the areas of program content & creating an immersive environment for the player/participant. This signals both the present (time) and denotes the recollection of previous events. The following areas of program content map the music/dance archive: a set of pathways: (i) METROPOLIS – a visual

menu page; (ii) CHINESE BOX - a form of Jazz music that migrated to Australia with the Russian refugees from China; (iii) JEWEL BOX - more recently the dance music culture that has emerged from the Indian communities in Australia via Fiji, Singapore, Malaysia & immigration from the Indian Sub-continent; (iv) PANDORA'S BOX - Greek economic migrants/ refugees – *Rembetika* the Greek blues; (v) two conclusions (a) an electronic poetic reverie; (b) a visual/audio collage of the various music/dance genres revealing mixed origins.



Figure 3 – JEWEL BOX pathway screen virtual artifacts form an interface device

Once the player has entered an interactive 'composition' the program content is divulged through a series of virtual artefacts. These artefacts become icons that trigger areas of the program content, and it through the intuitive exploration of these configurations that ideas about the music/dance forms are revealed. For example, inside the JEWEL BOX

pathway the narrative is revealed through interaction with the virtual dance jewels, which become icons representing the different levels of the narrative.

#### **4. Methodological Concerns: Diaspora/ dance/music**

...The aristocratic pleasure of counting differences is savoured. 'I cut my hair, he plaits his...he uses chopsticks; I write with a goose quill, he draws characters with a paintbrush...'<sup>4</sup>

(Jean-Paul Satre: 1964)

THE ELECTRO-LIBRARY: THE BOOK Topography of typology 1923

...The new book demands the new writer. Ink-stand and goose-quill are dead...The printed sheet transcends space and time. The printed sheet, the infinity of the book, must be transcended...

EL LISSITZKY From Merz, No.4, Hanover, July 1923.

There is the implication with this project of image making, an ideological agenda to interrogate the "... colonial constructions of racial, cultural, and geographic difference...(examined)...through the channels of photographic production and consumption."<sup>5</sup> (Hight & Sampson: 2002)

The parallel discourse weaving its thread through this creative work and writing is to make visible the construction of identity as a fragile relationship between observer and observed, the colonizing/dominant gaze and the marginalized ethnicity, the subject envisioned as both "racial inferior" and object of fascination.<sup>6</sup> (Hight & Sampson: 2002)

In taking up new media to represent my own subjective ethno-cultural identity, as image-maker I am necessarily playfully disrupting the subject/object dichotomy, and simultaneously by articulating my own

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ethno-cultural hybrid (masala mix) 7, I am attempting to reveal the social contract (collusion) of racial stereotypes as a cultural, social and political fabrication.<sup>8</sup> (Hight & Sampson: 2002) Inside this intertextual work, fascination with the 'spectacle' of Other is manipulated – through fetishisation and repetition where "...the image of the colonial Other becomes a trope of desire for the Western viewer...Through repetitive, fetishistic dissemination of stereotypes, the colonized subject becomes "mummified"<sup>9</sup> (Hight & Sampson: 2002)

The creation of an artful game, the player/participant is motivated to engage with a program that makes visible the artifice of representation. Historically, the representation of the marginal can be traced back to essentializing 'scientific' recording methods of physical anthropology, especially the hierarchical categorization of human specimens, to the popular commercial formats of collection and display: cartes-de-visite, tourist postcards, photograph albums, photographically illustrated books, and magazine advertisements... [pervasively used for the] symbolic and scientific uses of photography for the verification and justification of colonial rule, [addressing] the complex ways in which photographs assist in the construction of a colonial culture."<sup>10</sup> (Hight & Sampson: 2002)

The research methodology is based on participant observation, working with (beside) and documentation (film, video, sound) of the music/dance performances. The work I am making and the creative research focuses on imaging (imagining) & representing through the production of a non-linear interactive multimedia work:

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(1) 'the Box' as symbolic reference to software/aesthetics & what can be revealed/unfold in the interactive environment, additionally the Box as that which marks us out from 'others' as part of a distinct group, or scientific categorisation; (2) 'the Song' as a mode of cultural discourse/cultural expression, political persuasion, propaganda, particularly in relation to ethnic minorities; (3) 'dance forms' as a symbolic strategy for moving in-between theories & cultural practises; (4) the digital 'journey' as a metaphor for discovery of this new media & the different cultural forms; (5) image/sound/text assemblages, juxtapositions, arrangements as analogous to the compositions both musical/painterly & choreographic in dance forms; (6) a self-reflexive program articulating the 'open', ambivalent', and fragmentary' formal qualities of the non-sequential narrative <sup>11</sup> (Hall: 1996) ; and (7) 'Migration' as migration of people, music, memories, and the migration of the old media into the new media <sup>12</sup> (van Krieken, Smith : 1996)

## **5. Background to blackBOX research project**

The objective of this creative research is to extend, complicate, and sophisticate my earlier experiments with the music of the Russian diasporic people in China, through the production of an interactive non-linear multimedia work STRANGE CITIES CD-ROM. A work that is part of my on-going investigation into 'the song' as mode of cultural expression, political persuasion, propaganda, particularly in regard to ethnic minorities. In my earlier work I focused on an album recorded by my Russian grandfather Sergei Ermolaeff, which I stumbled upon after his death – vinyl "Strange Cities" (Stranyie Garadnye).

This record formed a body of original compositions & folk ballads from pre-revolutionary Russia. Most songs, and the title track "Strange Cities" were the laments of people in Diaspora, looking back to 'home-land' or

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to in this instance 'home-town/city' St Petersburg – nostalgically longing for 'motherland', a place that was no more – *an imagined space*. Composed in exile by Sergei (a stateless person) in the treaty port of Shanghai, China, Sergei went on to record & play these songs in his adopted home Sydney, Australia – a foreigner once more.

This new creative work extends this investigation by incorporating the cultural expressions of the Greek diasporic experience through the music of the displaced people – Rembetika; and the expression of 'Sanskrit' culture through the Indian diaspora, specifically the dance music culture of 'Odissi'. This creative work is informed by the multimedia design I developed in collaboration with Professor Andrew Jakubowicz for the *Menorah of Fang Bang Lu* interactive documentary project: -

<http://www.transforming.cultures.uts.edu.au/ShanghaiSite>

An online project exploring the lives of seven families and structured around seven cultural & social themes, evoking the complex and multidimensional fabric of Shanghai as a crossroads for the Jews of China – and those who came to Australia.<sup>13</sup> (Jakubowicz: 2003)

## **6. Hypertextuality/ Intertextuality**

The new media text is simultaneously non-linear narrative and intertextual, having its origins in modernist collage and montage aesthetic practices. There are a number of traditional media paths that can be traced which are brought together in this new form of electronic writing. One can trace the modernist practise of visual montage to the film concepts espoused by Sergei Eisenstein in the early 20th century in Russia. Editing sequences in film, utilising cutting strategies that juxtaposed images, sounds and texts to create dramatic meaning within the cinematic frame have now been synthesized in the virtual editing

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environment of computer software non-linear editing interfaces, which simulate the multi-track environment codified and theorized by Eisenstein in his early film work. The convergence of media into the software environment has transformed the capabilities for digital media production. It is possible to shoot a digital film/video and post-produce the media on the desktop of a multimedia computer.<sup>14</sup> (Manovich: 2003)

Simultaneously, writing practises have been transformed. However, Tatiana Nicolova-Houston argues in Eastgate Systems online journal <http://www.tekka.net/> that the open-ended hypertext is prefigured in Byzantine & Medieval manuscripts. She attributes the following characteristics to the hypertext: (i) Non-linearity; (ii) Multi-vocality; (iii) Inter-textuality; & (iii) Decenteredness<sup>15</sup> (Tekka: 2003). Nicolova-Houston argues that the Dark Ages medieval manuscripts, which "act as agents of historical and spiritual illumination, possessing a human feel and touch, with each one being a unique creation of a unique scribe and illuminator, a piece of art, and, frequently, its creator's masterpiece."<sup>16</sup> Also resemble contemporary 21st century electronic hypertexts (of the internet). These manuscripts, "like hyper textual Website or electronic books, consist of composite works of different layers of texts, illustrations, marginal and interlinear glosses and annotations. Medieval Bibles, chronicles, works of the Law, and textbooks present examples of a high level of hypertextuality."<sup>17</sup> (Tekka: 2003)

## **7. Aesthetics of Interactive Multimedia**

The 'immersive sensory experience', Melanie Swalwell argues in her thesis *Aesthetics and Hyper/aesthetics: Rethinking the Senses in Contemporary Media Contexts*, of the interactive environment of

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convergent media, (mediated through the intelligent technological systems of the computer) has produced new kinds of artificial (virtual) engagement. "...[The] ability to provide a greater range of sensory stimuli, all at once. As a result, claims were made by promoters of various media – new and old – that consumers were 'driving' convergence by their demands for "more realistic and 'immersive' (multisensory) experiences",<sup>18</sup> (Swallowell: 2002) with the implication that immersion resulted from stimulating all the senses, often to heretofore unimagined degrees. " The production of creative and experimental interactive art, draws from a multitude of disciplines – and has a number of various outcomes which include - cyber art, digital art, web art, information art, interactive art, active art, reactive art, and connective (networked art)<sup>19</sup> (Baschfischer: 2002). However these categories, under the rubric 'digital artefact', and non-material (art) object can be traced back to experiments in modernist avant-garde conceptual art "...interrogating the relationship between ideas and art, conceptual art de-emphasizes the value traditionally accorded to the materiality of art objects. It focuses, rather, on examining the preconditions for how meaning emerges in art, seen as a semiotic system."<sup>20</sup> (Shanken: 2001).

The experimental meeting of "software", "information technology", and "art", can be traced to a number of sources but was pioneered in the *museum* environment by Jack Burnham in the late 1960s. Specifically with his curation of the exhibition *Software, Information Technology: Its New Meaning For Art* at the Jewish Museum in New York (1970). "Burnham designed software to function as a testing ground for public interaction with "information systems and their devices". ...Burnham conceived of "software" as parallel to the aesthetic principles, concepts, or programs that underlie the formal embodiment of the

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actual art objects, which in turn parallel "hardware".<sup>21</sup> (Shanken: 2001) [See "The Aesthetics of intelligent Systems"; "System Esthetics" (1968); and "Real Time Systems" (1969)<sup>22</sup> (Burnham: 1970).

## **8. Virtual Archive of Cultural Memories**

The subjective figure of the protagonist, the girl, through which the player/participant experiences and interacts with the virtual spaces and performances has been informed by the educational theories on perception, learning and development espoused by psychologist Jean Piaget. "Piaget argued that learning occurs as a direct result of interaction with the environment...children learn from actions rather than passive observations, and so construct knowledge and understanding themselves..."<sup>23</sup> (Caulton: 1998). While Piaget's theories have been widely debated, his research has contributed to a 'taxonomical' understanding of cognitive learning, affective learning, and psychomotor development, which in turn has implications for the conceptualization of interactive media as an educational, informational, systems for social interaction and learning.

## **9. blackBOXES – digital media as a journey of discovery**

A key concern of this work blackBOX is to call attention to the iconic value of symbols in the virtual environment of digital media, which like symbols possess a universal imagery and thus address themselves to the needs of specific individuals or cultures, but in a mythological and psychological language."<sup>24</sup> (Hockey: 2001) The strategy of mobilising a series of myths cross-culturally is at play in the inner workings of the game device. The fact that the icons, signs and symbols from outside the dominant western culture are legible inside and can be interwoven into the storytelling and narrative process, suggest that there may be a

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reservoir, deeper than we dream and imagine that can be tapped into and that shapes societies myths. A central theme operating in the blackBOX work is *the quest*. The quest has long motivated narrative progression within the trajectory of storytelling. Influenced by Ridley Scott's *Blade Runner* Hollywood film, a science fiction *film noir* "...set in Los Angeles, 2019, with a narrative that is structured and centred round Chinatown."<sup>25</sup> (Hockey: 2001) Like the film's hero, Nina's journey [the protagonist] is constructed in the work to unveil aspects of her self and her cultural origins. We search like the girl for virtual objects whose meaning represent aspects of her outer world and reveal to her aspects of her inner self. This search, mirrors for the player/participant our own search through text and for self –understanding. In comprehending the text, we are provoked to consider the cultural artefacts that shape the individual and tap into a deeper reservoir of mythological ruins. !<sup>26</sup> (Guerer: 1994)

Mapping a history of the term 'blackbox' comes to incorporate an investigation of the *technological* implication of the notion 'box', a device, an instrument, and an *idea* created as a piece of *equipment*, a vessel for containing cultural artefacts, in the contemporary sense both in the physical, virtual, and thinking realms. Lev Manovich argues in "Avant-garde as Software"<sup>27</sup> (Manovich: 2003) that the software and windows environment of the computer is indebted to the techniques invented by the Russian avant-grade 1920s Left artists. ie. He traces the basic computer operations such as of drop down windows in HCI & "cut and paste command" techniques back to Lissitzky's use of movable frames in his 1926 exhibition design for the International Art Exhibition in Dresden<sup>28</sup> (El Lissitzky: 1992).

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Manovich historically links the development of interface metaphors that we experience today in computer environments to the visualisation of abstract data as compartmentalised 'windows' and 'boxes'. But can we take this analogy back further to antiquity and indeed across cultures? These visual metaphors, the bases of operating systems worldwide are legible across cultures. Visual literacy and perception exceeds the boundaries of language. The ability of the "icon" to convey meaning and convey narrative is comparable to the religious icon and the contemporary digital icon (emptied out of any spiritual connotation). Given that a grammar of the visual is culturally specific, it could be argued that a new global visualise is emerging with the existence of the Internet. While readable text inside the frame remains linguistically expressed in the national language, the lingua franca of the conventions of the computer screen are clearly trans-national. The framing structures of the windows environments of the computer screens are reminiscent of antique forms of representation. Tatiana Nicolova-Houston explores the juxtaposition of written text and images in Byzantine manuscripts and medieval manuscripts in <http://www.tekka.net/><sup>29</sup> (Nicolova-Houston: 2003)

This instance of theorising can be carried through to the religious "icon" as a window into spiritual meaning, and the picture space as a window into an imaginary landscape in modernist Western abstract and figurative painting.<sup>30</sup> (Nicolova-Houston: 2003) However, the new environment of digital media converges images sounds and text with a different ability, *interactivity* with the text. Interaction is extended beyond eyes and hands on the page, to the creation of a new book where the hand electronically manipulates an interrogation of the new image/sound text. Lev Manovich proposes that the emergence of 'new media' as a European term that was referred to by "European artists, designers, architects and photographers: The New Typography (Jan

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Tschichold)<sup>31</sup> (Tschichold: 1995), New Vision (Laszlo Moholy-Nagy)<sup>32</sup> (Maholy-Nagy: 1932), Towards a New Architecture (Le Corbusier)<sup>33</sup> (Le Corbusier: 1963).

Although nobody, as far as I know, published something called New Cinema, all the manifestos written during this decade by French, German and Russian filmmakers in essence constitute such a book: a call for a new language of film, whether it was to be montage, "Cinéma pur" (also known as "absolute film"), or "photogénie." Similarly, although not declared in a book, a true visual revolution also took place in graphic design thus "making it new" as well (Aleksander Rodchenko, El Lissitzky, Moholy-Nagy, etc.)<sup>34</sup> (Manovich: 2003)

Manovich explains the return of the word "new" in 1990s non-aligned with a specific media type i.e. photography, electronic print, or cinema/film but as a generic media,<sup>35</sup> now perhaps replaced by the term 'digital media', referring to the potential neo-avant garde practises and radical cultural innovations inherent in these new cultural forms of electronic media (CD-ROM, DVD, URL web sites, computer software games, hypertext and hypermedia applications).<sup>36</sup> (Manovich: 2003) What were cinematic, design, architectural, graphic and textual experiments i.e. Dziga Vertov's quick cutting techniques in The Man with a Movie Camera (Russia, 1929), and split screen experiments, Sergei Eisenstein's of montage film making techniques are re-interpreted, coalesce, mingle in the televisual, video and internet spheres, with the availability of imaging programs (Photoshop) and moving image

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(compositing) editing software programs (After Effects).<sup>37</sup> (Manovich: 2003) This analogy extends to musical representations.



Figure 4 – the girl searches for chineseBOX, pandorasBOX, and jewelBOX pathways

## **10. Conclusion**

These ideas inform the production of my creative work, when authoring for the interactive multimedia environment of the Internet and disc based work. My central concern is to reference the parent media and parent cultures, however, to mingle these forms in the production of a new text, a new articulation, in the digital realm. The software programs that I am working with metaphorically unleash the 'genie' from the 'lamp'. The 'genie' becomes the generically coded other. Sanskrit, Greek, and Russian (Chinese) culture stand in for the orient, the 'foreign', as immortalised in orientalist styles in Western music, film and literature. However, the 'lamp' becomes the 'box' – the jewelBOX, the chineseBOX, the pandorasBOX, and the 'blackbox' of the program that I am creating. Metaphorically, the player/participant simulates the mobile agents moving through the electronic service frameworks, entities consisting of

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code, data and control information<sup>38</sup> (Hohl: 1998) migrating between different nodes in the system.

## Notes

<sup>1</sup> Bruno Latour, (1987), "Opening Pandora's Black Box", Science in Action, Open University Press, England, pp1-17.

<sup>2</sup> Like Hockey, (2000), "The Objective Psyche and Archetypal Patterns", in Cinematic Projections: The Analytical Psychology of C.G Jung and Film Theory, University of Luton press, U.K.

<sup>3</sup> George Landow, (1999), "Hypertext as Collage-Writing", in Peter Lunenfeld (Ed), The Digital Dialectic: New Essays on New Media, MIT Press, Massachusetts, pp151.

<sup>4</sup> Jean-Paul Satre, (2001), "From One China to Another", Preface to D'une Chine a l'autre, by Henri Cartier-Bresson and Jean-Paul Satre, Editions Robert Delpire, 1954 in, Colonialism and Neo-Colonialism, Routledge, London, [my parenthesis], pp2.

<sup>5</sup> (Eds) Eleanor M. Hight & Gary D. Sampson, (2002), Colonialist Photography: Imag(in)ing Race and place, Routledge, London.

<sup>6</sup> op cit pp1.

<sup>7</sup> masala (Hindi Indian word denoting spice mix, having culinary usage).

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<sup>8</sup> (Eds) Eleanor M. Hight & Gary D. Sampson, (2002), Colonialist Photography: Imaq(in)ing Race and place, Routledge, London, pp3.

<sup>9</sup> Eds) Eleanor M. Hight & Gary D. Sampson, (2002), Colonialist Photography: Imaq(in)ing Race and place, Routledge, London, pp6.

<sup>10</sup> (Eds) Eleanor M. Hight & Gary D. Sampson, (2002), Colonialist Photography: Imaq(in)ing Race and place, Routledge, London, pp2.

<sup>11</sup> Stuart Hall, "Gramsci's relevance for the study of race and ethnicity", in David Morley and Kuan-Hsing Chen (Eds), (1996), Stuart Hall: Critical Dialogues in Cultural Studies, Routledge, London.

<sup>12</sup> Robert van Krieken, Philip Smith (et al), (2001) "Migration, Ethnicity and Australian Aboriginality, in Sociology: Themes and Perspectives (2<sup>nd</sup> Edition), Australia.

<sup>13</sup> Lev Manovich, (2003). "Avant-garde as Software", From "New Vision" to New Media, <http://www.manovich.net/> ARTICLES 18 November2003.

<sup>14</sup> Stuart Hall, "Gramsci's relevance for the study of race and ethnicity", in David Morley and Kuan-Hsing Chen (Eds), (1996) Stuart Hall: Critical Dialogues in Cultural Studies, Routledge, London.

<sup>15</sup> Stuart Hall, "Gramsci's relevance for the study of race and ethnicity", in David Morley and Kuan-Hsing Chen (Eds), (1996) Stuart Hall: Critical Dialogues in Cultural Studies, Routledge, London.

<sup>16</sup> Andrew Jakubowicz, (2003) "The Menorah of Fang Bang Lu", *The History of Jewish Diasporas in China* 2002 Symposium, Nanjing, China, May 5-8 2002 & Andrew Jakubowicz, "From Shanghai to Sydney: sociology as cultural multimedia", *Campus Review*, June 11-17, pp8.

<sup>17</sup> Tatiana Nicolova-Houston, Byzantine Hypertexts and Medieval manuscripts as hypertexts in <http://www.tekka.net/> 18 November 2003 Tekka, 134 Main Street, Watertown MA 02472 USA. email: editor@tekka.net info@tekka.net voice: +1 (617) 924-9044 (800) 562-1638

<sup>18</sup> Tatiana Nicolova-Houston <http://www.tekka.net> 2 October (2003).

<sup>19</sup> Tatiana Nicolova-Houston <http://www.tekka.net> 2 October (2003).

<sup>20</sup> No author given (press release) (August 1997) "Philips Digital Convergence Product Defines Multimedia Home Cinema", <http://www-us.sv.philips.com/news/press>, accessed 18/7/00, quoted in *Aesthetics* and Melanie Swalwell, (2002), *Hyper/aesthetics: Rethinking the Senses in Contemporary Media Contexts*, Doctor of Philosophy, University of Technology, Sydney, pp3.

<sup>21</sup> "Gerhard Bachfischer, (2002), "A Constant Flow of Thoughts", unpublished creative journal, Master of Interactive Multimedia, Institute for Interactive Media & Learning, UTS, pp12.

<sup>22</sup> "...the "dematerialization" of the art object theorized by Lucy Lippard and John Chandler in "The Dematerialization of Art", *Art International* (February 1968) and reinscribed in Lippard's *Six Years: The dematerialization of the Art Object, 1966-1872* (1973), [where] "dematerialization of art" can be seen as a "strategy for repositioning art in relation to politics – not a shift from material per se, but a shift from an artworks value as an object of commercial exchange to its value as aesthetic and political interchange", quoted in Edward A. Shanken, (2001), "Art in the Information Age: Technology and Conceptual Art", *Art & Culture Papers, Electronic Art and Animation Catalog: SIGGRAPH*, pp8-9.

<sup>23</sup> A. Shanken, (2001), "Art in the Information Age: Technology and Conceptual Art", *Art & Culture Papers, Electronic Art and Animation Catalog: SIGGRAPH*, pp9.

<sup>24</sup> Jack Burnham, (1970 ), "Notes on Art and Information Processing", *SOFTWARE: 10* quoted in Edward Fry, *On the Future of Art*, Viking, New York, pp119.

<sup>25</sup> Tim Caulton, (1998), "The personal context to museum learning", in *Hands-On Exhibitions: managing interactive Museums and Science Centers*, Routledge, London, pp18.

<sup>26</sup> Like Hockey,(2001), "The Objective Psyche and Archetypal Patterns", in *Cinematic Projections: The Analytical Psychology of C.G Jung and Film Theory*, University of Luton press, U.K.

<sup>27</sup> Like Hockey, (2001), "re-reading Blade Runner", in *Cinematic Projections: The Analytical Psychology of C.G Jung and Film Theory*, University of Luton press, U.K.

<sup>28</sup> H.A. Guerer, (1994), *The Classical Myths of Greece & Rome*, Senate, London, pp17.

<sup>29</sup> Lev Manovich, (2003 ), "Avant-garde as Software", From "New Vision" to New Media, <http://www.manovich.net/> ARTICLES 18 November, 2003.

<sup>30</sup> See El Lissitzky, (1968), "Exhibition Rooms," in Sophie Lissitzky-Küppers, El Lissitzky. Life - Letters - Texts, Thames and Hudson, London, pp366-368.

<sup>31</sup> Tatiana Nicolova-Houston, Byzantine Hypertexts and Medieval manuscripts as hypertexts in <http://www.tekka.net/> 18 November 2003 Tekka, 134 Main Street, Watertown MA 02472 USA. email: editor@tekka.net info@tekka.net voice: +1 (617) 924-9044 (800) 562-1638

<sup>32</sup> Tatiana Nicolova-Houston (2003), op cit.

<sup>33</sup> Jan Tschichold, (1995), The New Typography: a Handbook for Modern Designers, trans. Ruari McLean, University of California Press, Berkeley.

<sup>34</sup> Although Moholy-Nagy New Vision exhibition took place only in 1932, it was a retrospective of the 1920s movement in photography which took place in the 1920s and which was largely over by the time of the exhibition.

<sup>35</sup> Le Corbusier, (1963), Towards a New Architecture, trans. Frederick Etchells, Architectural Press, London, New York, Praeger.

<sup>36</sup> Lev Manovich, (2003), "Avant-garde as Software", From "New Vision" to New Media, <http://www.manovich.net/> ARTICLES 18 November.

<sup>37</sup> Lev Manovich, (2003), "Avant-garde as Software", From "New Vision" to New Media, <http://www.manovich.net/> ARTICLES 18 November.

<sup>38</sup> Lev Manovich, (2003), op cit.

<sup>39</sup> Lev Manovich, (2003), op cit.

<sup>40</sup> Fritz Hohl, (1998), "Time limited Blackbox Security: Protecting Mobile Agents from Malicious Hosts", in Giovanni Vigna (ed), Mobile Agents and Security, (Lecture notes in computer science; Vol.1419), Berlin, pp92-109.

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