

Overview

This research began informally in my mind ten years ago, when I was working as a television producer and started questioning how the digitalisation of the whole production process (from filming to editing) and of content distribution (via digital cable, but more importantly via the internet) would affect the form, and the logic of documentary making. What will be the documentary of the future, was my question, how will digital interactive and networked media enforce new logics of representation of reality? This question has evolved since formally starting this research at Goldsmiths three years ago, but my fundamental interest has remained the same: an interest for the documentary form as a way of relating to reality and of creating models of subjectivity¹. What interests me in the documentary form is not so much its attempt to portray a reality of interest to the filmmaker (the representation of reality has been the original aim of linear documentaries²) but the fact that the way the filmmaker has chosen to interact with reality, to mediate it through shooting, editing and showing it, is indicative of ways of thinking about reality, and therefore of forging it. In other words for me the documentary doesn't say much about what reality *is* but it says a lot about *how we do relate to* reality and how we construct our knowledge and our beliefs around it. From this point of view I believe the media itself is not neutral, as it affords³ a certain type of organisation of information and it permits specific forms of relationships between the observer subject (the filmmaker) and the reality she observes.

This research concentrates on the passage from linear documentaries⁴ to digital interactive documentaries⁵ with the aim of identifying different logics of documentation of reality and new modes of subjectivity made possible by the digital media. The core hypothesis of this research is that digital interactive media, more than analogue media, facilitates and pushes towards a documentation of reality that is active, dynamic and collaborative. By doing so it suggests a reality that is multiple

¹ I refer here to models of 'subjective consciousness' in Chalmers terms (1996) as ways to create a consciousness of the self: how are 'qualia, subjective experiences, first-person phenomena' (Searle 1997:99) experienced and created?

² Documentary making has been defined from the start in opposition to fictional cinema. John Grierson, the filmmaker at the heart of the British Documentary movement of the 1930's, and to which the first use of the word "documentary" is associated, specifically states that "the materials and the stories taken from the raw can be finer (more real in the philosophical sense) than the acted article" (as quoted in Macdonald and Cousins 1998:97). The real is seen as the "non-acted", as the raw material that surrounds us. The documentary as a witness of such reality. With time, as Brian Winston pointed out in *Claiming the Real* (1995), an apparent contradiction appeared at the heart of documentary making: the presentation of "factual" material is mediated by a subject (the creative filmmaker) and by a media (film, video), but documentary remains the filmmaker's point of view on reality rather than the spectator's one.

³ The word "affordance" was originally invented by psychologist J. J. Gibson (1977, 1979) to refer to the actionable properties between the world and an actor (a person or animal). 'A path *affords* pedestrian locomotion' (Gibson, 1979:36), 'a fire *affords* warmth' (ibidem). To Gibson, affordances are relationships, some of which are perceivable while some other are not - or we just do not know about them. When I say that a media affords certain types of relationship I mean that each media permits, allows, accommodates different information structures: a video tape affords sequential shots while a DVD can afford non sequential random viewing.

⁴ With this term I mean documentaries that use linear and time based media supports such as film or video (even if it is digital video).

⁵ A digital interactive documentary not only uses a digital support (that could be anything from digital video to mobile phones or the web...) but it also demands some embodied interactivity from the user-participant (in other words a participation that is more than the mental act of interpretation).

and subjective, created by dynamic relationships rather than objective facts. This vision of reality seems to be in tune with constructivist's theories of reality⁶ and with Second Order Cybernetic⁷'s notion of 'enacted perception' (Varela, Thompson and Rosch, (1993:173)⁸.

Digital interactive documentary is still an emerging field and, as explained in Chapter 1 (literature review) it lacks definitions and convincing systems of classification. At present anything from educational CD-ROM material⁹ to collaborative editable documentaries on the Internet¹⁰, passing via art performances¹¹, locative games¹² and collaborative communities¹³ can be called an interactive documentary, in the sense that they make account of a reality through the use of digital media technology. The systems of classifications used in classic documentary theory, reviewed in Chapter 1, do not seem to fit, or be useful when applied to digital interactive documentaries. I propose in this research to classify interactive documentaries by *modes of interaction* (rather than by technical platform, or by topic, or even by genres taken from other domains –educational, game, artistic etc...) because I want to enforce a view of the documentary as praxis of doing, rather than praxis of communication or representation. In Chapter 1 (the literature review) I argue that the famous *modes of representation* presented by documentary theorist Bill Nichols were relevant for linear documentaries but that it is *modes of interaction* that become key in interactive documentaries. By doing so I shift the attention from the study of documentary as a finished product that can be analysed through styles and conventions (camera

⁶ Constructivism is a theory describing how learning happens and suggests that learners construct knowledge out of their experiences. Normally attributed to philosopher and natural scientist Jean Piaget (1896-1980), constructivism is frequently associated with pedagogic approaches that promote learning by doing. Piaget studied the cognitive development of children. He described knowing as a quest for a dynamic balance between what is familiar and what is novel. When we encounter something new, we have to reconcile it with our previous ideas and experience, sometimes changing what we believe, or discarding the new information as irrelevant. For Piaget we organize our worlds by organizing ourselves... and therefore our cognition is an active process. As Von Glasersfeld points out, Piaget's thinking "concerns the experiential world of the acting organism, not any 'external' reality" (1990:5). Key names in constructivism are Lev Vygotsky, Jerome Bruner, Herbert Simon, Paul Watzlawick, Francisco Varela, Humberto Maturana and Ernst von Glasersfeld.

⁷ Cybernetics began as an interdisciplinary study connecting the fields of [control systems](#), [electrical network theory](#), [mechanical engineering](#), [logic modeling](#), [evolutionary biology](#), [neuroscience](#), [anthropology](#), and [psychology](#) in the 1940s. As a science it studies the abstract principles of organization in complex systems. It is concerned not so much with what systems consist of, but how they function. After the World War II, though, 'the fascination with the new control and computer technologies tended to focus attention on the engineering approach, where it is the system designer who determines what the system will do' (Heylighen, 2001:3). Systems therefore started to be seen as determined by human control. Second Order Cybernetics (or Second Wave Cybernetics) started around the 1960's/70's when cyberneticists felt the need to clearly distinguish themselves from these more mechanistic approaches, by emphasizing autonomy, self-organization, cognition, and the role of the observer in modeling a system. An overview of cybernetic history is given in Chapter 2.

⁸ In 'Enacted perception' the perceptive act is seen as a dynamic relationship between "description" (in the brain), senses and surroundings - where the perceiver is *active* in creating a reality through thought and cognitive functions. Major exponents of active perception are James Gibson, [Richard L. Gregory](#) and Maturana and Varela. This theory of perception is a response to the more diffuse Realist view of *passive* perception, where the world is seen as an objective entity "out there" that we passively perceive through our senses.

⁹ See for example *Becoming Human* (available online at <http://www.becominghuman.org/>) or *Bleeding Through: Layers of Los Angeles 1920-1986* by the Labyrinth Project, discussed in Chapter 1.

¹⁰ See for example the *Echo Chamber Project* by Kent Bye, discussed in Chapter 1.

¹¹ See *Overheated Symphony* by Sarah Turner, discussed in Chapter 1.

¹² See *Rider Spoke* by Blast Theory, discussed in Chapter 1.

¹³ See *Depford TV* by Adnan Hadzi discussed in Chapter 1 or *Over the Hill's* website, by Sunny Bergman, discussed in Chapter 3.

framing, presence of voice-over, style of editing, political role etc...) to the study of documentary as a dynamic form, as a system composed by its relationships with different realities (the people that have been interviewed, the mediation of the camera, the inner thoughts of the author, the technical affordances of the medium, the participation of the user, the cultural and economic context etc...). Throughout the whole production process a linear documentary constantly changes. Shots that were planned might never be used, interviews reveal the need for more material, technical problems impose unpredicted ways of shooting etc... but once it is edited this process of change stops. The production process and the viewing process stay separated in analogue media. This is not the case in digital interactive media. For example, a website such www.beperkthoudbaar.info¹⁴, that takes the shape of a forum where women can document their relationship with their own body and self-esteem, is produced and populated while it is consulted and viewed. This is one of the differences between linear and interactive documentaries: digital interactive documentaries can be seen as “living systems” that continue to change themselves until collaboration and participation is sustainable, or wished by the users, or by the systems that compose it.

In order to see the documentary as a system in constant relation with its environment, and to see it as “a living system” I propose in this research to use a Cybernetic approach, more precisely a Second Order Cybernetic approach, and to see the documentary as an autopoietic¹⁵ entity with different possible levels of openness, or closure, with its environment. Autopoiesis is for me a meta-model through which I can explore different types of interactive documentaries. Chapter 2 is entirely dedicated to trace back the key concepts of Cybernetic discourse and to elucidate the reasons for which I find them useful in cultural analysis. Concepts of system, positive and negative feed-back, circularity, role of the observer, autopoiesis and structural coupling are all explained in their original historical context and then applied to the cultural analysis of documentary form in Chapter 3 (particularly though the use of two case studies: *Flying: Confessions of a Free Woman* and *Over the Hill*).

Chapter 2 and Chapter 3 put particular emphasis on the relationship between the observer and the system that is observed - in documentary theory and in Second Order Cybernetics. By doing a parallel between scientific and cultural realms I want to emphasise how much those two are linked. I am suggesting that concepts of system, circularity, feedback loops and interaction had found different names in different domains but reflected a similar way of thinking. They are indicative of the cultural shifts of the 20th century, of the spirit of its times, of its zeitgeist.

The changing role of the cybernetic observer marks the shift between First and Second Order Cybernetics that happened around the 1960s. While in First Order Cybernetics the observer is seen as independent and external to the observed system, in Second Order Cybernetics the observer is inseparable from the system observed.

¹⁴ An in depth analysis of such website is to be found in Chapter 3 as an example of how documentary maker Sunny Bergman is using the Web to “expand” *Over the Hill*, her linear documentary.

¹⁵ As explained in Chapter 2, autopoiesis is a concept that comes from biology. Autopoiesis means that although the organism is distinct from its environment it constructs itself via its interaction with it - they are therefore in a relationship of mutual dependency. ‘Living beings’ claimed Chilean biologists Maturana and Varela ‘are characterized by their autopoietic organization’ (Maturana and Varela, 1987:47) where autopoiesis is the process of self-making, or of auto-creation, and organization is ‘the set of relations that must exist for the components of a system for it to be a member of a specific class’ (1987:47). In other words any living organism materially self-constructs itself and by doing so distinguishes itself from its environment and acquires autonomy.

'This change of views explicitly focuses Second Order Cybernetics onto the explanation of cognitive processes as determined by the agent-environment coupling dynamics' (Bishop and Nasuto, 2005:1311). One of the possible consequences of seeing any entity (a complex entity such as an observer or a simple entity such as a cell) as part of a larger whole has been the concept of autopoiesis. First formulated by biologists Maturana and Varela in 1980 autopoiesis has become a key concept of Second Order Cybernetics by defining the living organism as self-organized, autonomous and in constant relation (structural coupling) with its environment. Abstracting 'life' from the usual characteristics of "birth", "death" and "mode of reproduction" was perceived as liberating and revolutionary in the cultural context of the early 1980's. This maybe explains why autopoiesis was rapidly extrapolated from the biological context and used in philosophy (Deleuze, Guattari), social sciences (Luhmann), psychology (Bruner) and cognitive science (Thompson, Rosch, Clark and Noe).

I argue in this research that autopoiesis is particularly useful for the analysis of digital interactive documentaries because it defines interaction as a set of relationships between the organism and its environment that define, and shapes, both of them¹⁶. In a digital documentary the user must have an agency¹⁷. She needs to be able to physically "do something", if not it would not be an "interactive" documentary. What type of "doing" this is, and how it is generated, is what makes the difference between logics, or modes, of interactivity that I have flagged in Chapter 1. There is a big difference between browsing content on a CD-Rom, participating to an internet forum and cycling in a city while communicating to a mobile computer device. The difference is not only the experience of the user (which is normally the concern of User Centred Design) or the clarity of navigation (that is normally the concern of Human Computer Interaction) but it is also how the system composes and makes itself (which is the concern of autopoiesis). For me seeing a digital system as autopoietic means to move away from notions of interaction as a more or less effective communication between the user and the computer and to see it as the multiple relations that involve other sub-systems, maybe other users, maybe physical space, maybe other technologies, maybe dysfunctional parts... that can create, or destroy, a living organism. Because of its crucial role in this research, autopoiesis is discussed at length in Chapter 2 and so is its corollary concept of enacted perception¹⁸. In Chapter 2 I also defend the choice of using a biological concept, such as autopoiesis, in a cultural context. I take in consideration critiques that have been done in cultural analysis to the social use of autopoiesis and I claim that if seen as a mechanistic process, and not as a social metaphor, then autopoiesis is usable, and useful, outside of the biological realm.

Chapter 3 shows how concepts of autopoiesis, feed-back and enactment have filtered through documentary practice since the 1960's. This has happened though the debate

¹⁶ In *Autopoiesis and Cognition* Maturana and Varela put particular emphasis on the concept of interaction. 'It is the circularity of its organization that makes a living system a *unit of interactions*, and it is this circularity that it must maintain in order to remain a living system and to retain its identity thorough different *interactions*' (1980, my italics).

¹⁷ Agency is a philosophical concept that describes the capacity of an agent to act in a world. The term is here used in its interactive design sense, as a description of what a user can do when interacting with a specific digital artifact.

¹⁸ In *The Embodied Mind*, perception has been defined as *embodied* and *enacted* by Varela, Thompson and Rosch (1991). By doing so they put the emphasis on a dialectic vision of perception that supposes that our materiality (embodied sensory and motor processes) our psychology and our cultural identity are in constant inter-*action* between themselves. Inter-*activity* is therefore seen as our fundamental way of being, our way of *relating* and *existing* through *doing*.

around the relationship between the filmmaker, the filming technology and the environment. I do a parallel between the burgeoning notions of enactive observer in Cybernetics and the active role that the filmmaker started acquiring in Performative and Participatory documentary genres that blossomed after the 1970s. I also identify how changes in the filming technology, the advent of portable and lightweight equipment in the 1960's, and later the use of camcorders¹⁹, have accelerated a cultural trend of openness and participation, allowing the filmmaker to move freely and discretely while shooting. I link this trend to the general fascination of those years for a more "open work", eloquently described By Umberto Eco in *Opera Aperta*, and to Expanded Cinema's attempts to use film and video in an experimental way, bringing them outside of the screen space, and breaking editing and filming conventions. Finally I jump to present times and use two documentaries as case studies to illustrate what I believe is the current state of transition between linear and digital interactive documentary.

Flying: Confessions of a Free Woman (2007), by Jennifer Fox, and *Over the Hill* (2007), by Sunny Bergman, are both linear documentaries that have a presence on the internet. In the first case this presence is what I have called "a website *about* a documentary" and in the second case "a website that *is* an interactive documentary". *Over the Hill's* website is not a promotional site for a film but a proper internet forum for women to discuss their relationship with their bodies. While *Over the Hill's* linear documentary is a thought provoking film that represents its filmmaker's understanding and point of view, the website is a vast mosaic of multiple feminine point of views that is in constant evolution and that does not portray a single message. I see this dynamic entity as a partially open autopoietic interactive documentary. By open I mean an autopoietic process that allows the change of the system, rather than keeping it in a stable equilibrium. How open this process can be will be discussed in Chapter 4. The other example, *Flying: Confessions of a Free Woman* was chosen because as a website it stays fundamentally closed²⁰ (it is more a promotional website than an interactive documentary in its own rights) but as a linear documentary it shows a will to embrace levels of openness through the use of a particular technique of shooting: the Passing the Camera technique²¹.

My argument is that the slow transition of the role of the documentary filmmaker/author in the last fifty years has gone through different phases, and we are now at a tipping point. While for a long time the debate mainly concentrated on the role of the filmmaker, its observational or participative presence, and in techniques of

¹⁹ Camcorders are cameras that can record sound and image onto one unique tape (previously sound and filming equipment where two separated machines, often operated by two people).

²⁰ The website is mainly closed because although it contains the filmmaker's blog, and an invitation to people to send videos to the site, those are mainly geared to form a type of fanclub rather than to generate new dynamics of dialogue. As a result people's participation do change the website, by populating it with content, but does not change the fundamental organization or *raison d'être* of the website - that stays very much in Jennifer Fox's hands. In this sense the relationship website/environment (people, web participators) is autopoietically closed as it changes content but not the organization that makes it what it is.

²¹ Filmmaker Jennifer Fox uses a small DV camera that has a two directional microphone attached to it. She never stops recording her conversations, passing the camera from hand to hand, each person pointing at the one that is speaking. The effect that is obtained is of continuity and apparent spontaneity. Jennifer is not *the* director-filmmaker of the movie since her friends are filming too. During the shooting Jennifer is not in control of what is happening and she oscillates between the role of the observer (when she is filming) and the observed (when she is filmed). This is where I see an opening happening: while passing the camera Jennifer allows her own personal change to happen while it is recorded on camera, she gives up control of the camera movements and she documents feed-back loops between herself and her environment (the autopoietic process).

shooting, such as the *Passing the Camera* one, that could open up the documentary to external input, the use of digital technologies and networked media have pushed the documentary maker from an observer to an enactor. More: digital collaborative media can put the filmmaker/author at the same level of her audience/users, and the distinction between observer, observed and participant is slowly fading out. Also, an interactive documentary might not use video at all (it can use any media, hence the terminology “multi-media”) so the role of the filmmaker, the use of the camera or the style of editing are not anymore enough to speak about interactive documentary. The questions then become: does the digital interactive documentary still belong to the documentary form? How can we identify the differences between the types of digital interactive documentaries that are emerging? By proposing to see the documentary as an autopoietic form I can speak of linear films as partially closed and of digital interactive documentaries as having different levels of openness. I can therefore put them under the same umbrella of “documentation of reality” but distinguish them not by platform, by narrative genre or by topic, but by levels of autopoietic relationship created during their existence. Those levels of autopoietic openness will be the main focus of Chapter 4.

In Chapter 4 (still to be written) I intend to use different levels of autopoietic openness, in conjunction with the different logics of interaction flagged in Chapter 1, to analyse specific case studies of collaborative and locative interactive documentaries. The questions that I will pose are: what does it mean to speak about an autopoietic documentary? Who is the self that is organizing and what are the consequences on the system itself? If this self is multiple, as in collaborative work, what discourse of reality can be created? Finally, if an interactive documentary can be seen as a living system, I will question how this system might ‘die’ when its autopoietic functions stop.

For me, the chance to be grasped in interactive documentary is to move out from the observer->observed relationship -afforded by a linear medium such as film or video- and to experiment with a circular enactor to enactor relationship – afforded by a participative and multidimensional medium such as the digital networked medium. If this does happen, then Varela’s constructivist vision of reality – a reality that ‘emerges from our enactive cognition’ (Varela, Thompson and Rosch) – will have found the perfect medium to express its multiple nature. Also, the documentary form could become a form of documentation that loses the single voice of the narrator, and its ordering logic, to gain complexity and experience of multiple realities.

Methodology

This research is theoretically based, in the sense that it does not come with a practical project, but it makes constant reference to currently existing interactive projects and to past experiments. Since digital interactive documentaries is still an emerging field (it barely started thirty years ago), it is difficult to find such examples, mainly because people refer to themselves with various terminologies: new media documentaries, digital documentaries, interactive film, database narrative etc... Most of the time what I would consider an interactive documentary is not linked by the industry with the “documentary family” and is called an online forum, a digital art piece, a locative game, and educational product, a 3D world, an emotional map etc... making my search for examples particularly difficult. Even more indicative, the authors of such

artefacts do not define themselves documentary makers but digital artists, interactive designers or games designers.

In order then to choose my examples I have decided to keep a database of digital interactive pieces that I consider eligible for the title of interactive documentary. My criteria for the eligibility have been the following:

- 1- the piece needs to use digital technology in an interactive way (in the sense that it needs to involve the user through some type of physical feed-back²²),
- 2- the piece needs to show an intent to relate to factual, or emotional, events (or situations) with the wish to document them in some way or another.

It is through the use of such criteria that I have been able to consider pieces such as, for example, *Rider Spoke* - where the participator records her thoughts in a portable device while cycling in a city - as a documentation of one's relation with the city, rather than as a locative game.

I have also decided to make such database freely available online and to encourage people in the industry, and in relevant research streams, to contribute by adding their own interactive documentaries to the database (see fig.1). By doing so I hope to expand my knowledge in my field of interest by using precisely the tools of collaboration and participation that I analyse in my writing. Conscious of the circular and reflexive aspect that is present in digital platforms such as blogs and forums I have decided to include in my website two distinct blogs: one is about my own academic learning while doing my research and the other one is about my own experience, as a student, while doing the PhD. In the first one I document my participation to specific interactive events by means of text, but also of video recordings (in order to visually document my experience and share it with others) (see fig.2), while in the second one I document my moods and personal reflections through the means of text, but also of photographic Haikus (a series of 3 photos) as an attempt to "grab the moment" with visual media (see fig.3).

The website has just been recently launched, so it is early days to judge its utility, but for me it is a way to test my research hypothesis by contextualising them in production praxis. It is also a way to learn by doing. How much will the feed-back loops between different parts of myself, or between myself and other participants, or between me and technology change my own thinking, my knowledge and, at the same time maybe change the look, the navigation, the content and the raison d'être of my own website? Those questions are the same that I pose in my research.

²² Physical feed-back is obviously also mental and emotional, but what I mean here is that the mere act of interpretation of a documentary is not enough to speak about interactive documentary because to interpret and 'make sense of' is an active participation but it does not change the documentary itself, or the way its narrative unfolds.

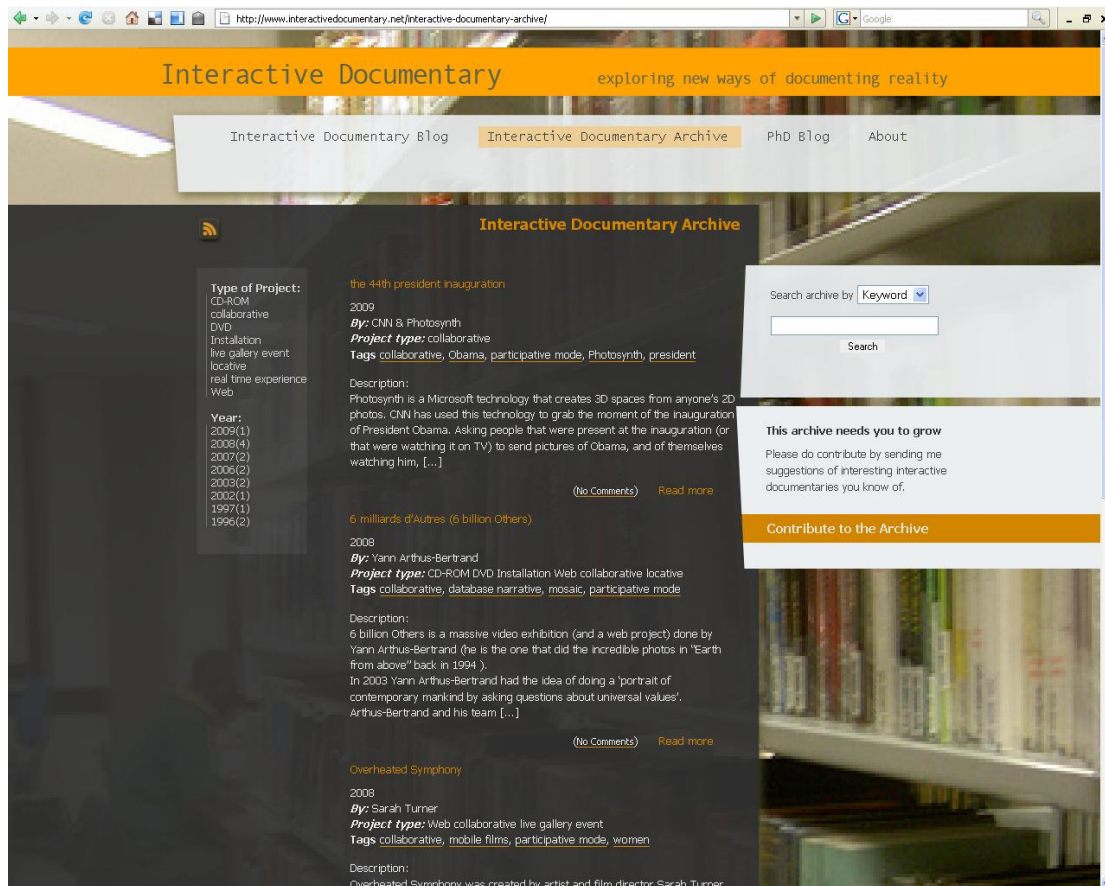


fig.1: the interactive documentary archive – home screen
(available at <http://www.interactivedocumentary.net/interactive-documentary-archive/>, retrieved 2.05.09)

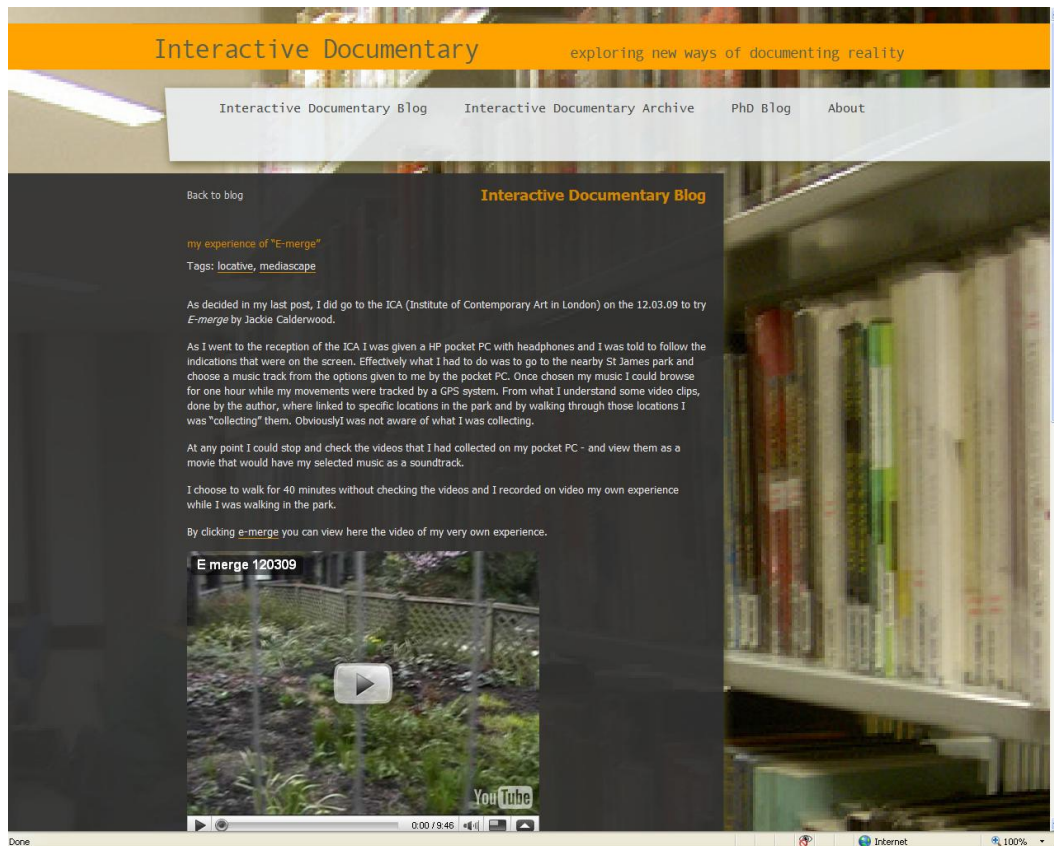


fig.2: my documentation of going to the E-merge interactive landscape event (available at <http://www.interactivedocumentary.net/2009/03/16/e-merge-at-the-ica/>, retrieved 2.05.09)

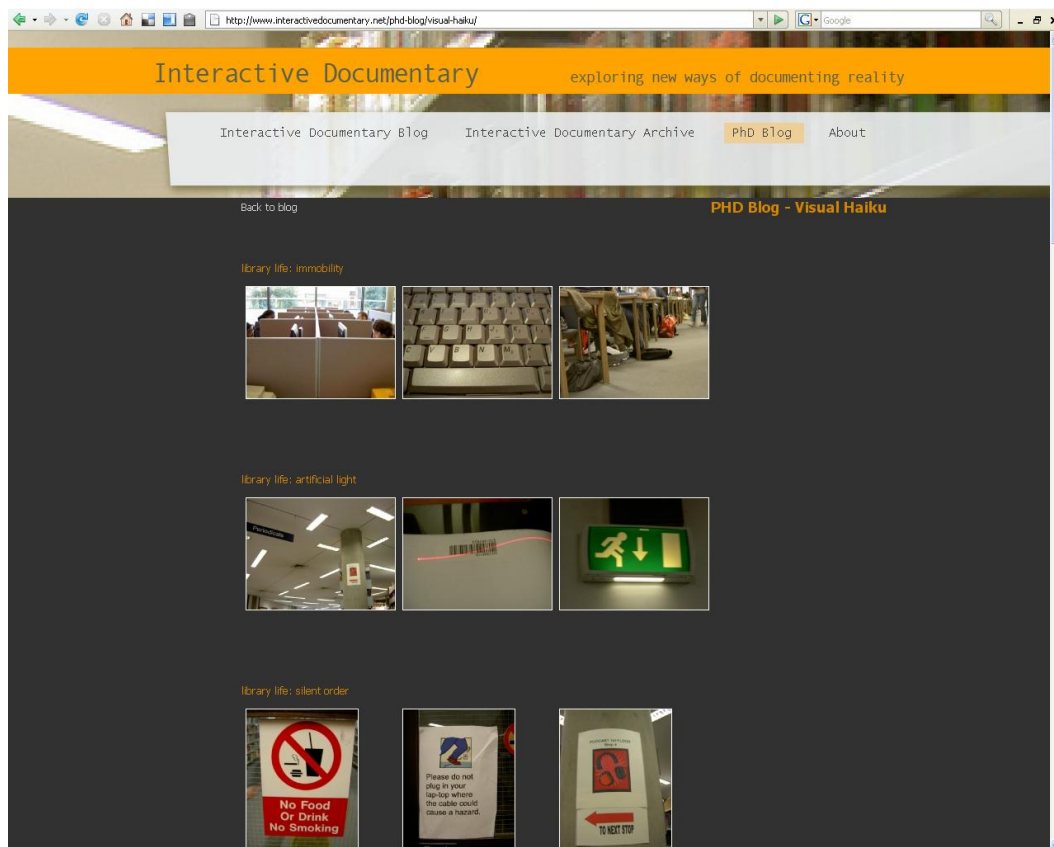


fig.3: the Visual Haiku page (available at <http://www.interactivedocumentary.net/phd-blog/visual-haiku/>, retrieved 2.05.09)