

Chapter 1 - Setting the field

The first part of this chapter gives an overview of the main approaches that have been followed so far to define documentary genre. My aim is not to give a full account of documentary's historical evolution, nor to cover the literature on how to make documentaries, but to pin down what makes a film, or a video, a documentary rather than another narrative form. The second part of the chapter moves from linear media, such as film and video, to digital interactive media, such as the internet or mobile phones, and questions what an interactive documentary might be and how one could grasp its different typologies.

My hypothesis is that it is difficult, and probably counter-productive, to frame digital interactive documentaries as a continuation of linear documentaries since, although they both attempt to document reality, they use completely different logics in doing so. I propose in this research to start from the study of those different logics, as ways to organize and construct the documentary itself, to see how both linear and interactive documentaries are just different attempts to document reality that engender different forms of artifacts. For this I use documentary film theorist Bill Nichols' *documentary modes* to differentiate between types of linear documentaries and I propose my own *modes of interaction* to identify different types of interactive documentaries. By doing so I try to highlight the complexity, rather than the specificity, of documentary form and I suggest to use such complexity to see an interactive documentary as a system in constant relationship with its environment; a system that has the characteristics of an autopoietic system. The link between modes of interaction and levels of autopoiesis will be done in Chapter 2 and will be then applied to specific case studies in Chapter 4.

Defining the linear documentary genre

“Even in its infancy, when films were composed of a single shot and lasted less than a minute, cinema was divided in two camps: those who looked to the real world for their subject matter, and those who filmed performances” (Cousins and Macdonald, 1998:4).

Defining the documentary genre is not as simple as it might seem. If from the beginning of cinema making there has been a division between those attempting to record reality (facts) and those aiming at inventing reality (fiction), this distinction has never been crystal clear. In an article about the origins of Digital Video (DV) Realism, media critic Lev Manovich traces back the distinction between factual and fictional narrative to the opposite positions that pioneers filmmakers like the Lumiere brothers and George Melies took at the very start of the history of film making. The Lumiere brothers experimented with filming their own workers leaving the factory (*Workers Leaving the Lumière Factory*, 1895) or the entrance of a train in the La Ciotat station (*Arrival of a Train at a Station*, 1895) while George Melies, a former magician, experimented with special effects and fictional narratives (his most famous film is [A Trip to the Moon](#) -*Le voyage dans la Lune*- made in 1902). But, as film critic Thomas Elsaesser has demonstrated, the Lumiere brothers had planned, scripted and

rehearsed several of the events that they wanted to film, blurring the notion between factual and fictional narrative and therefore making it difficult to define documentary genre in simple opposition to fictional film¹.

This been said, even if documentary cannot be just defined as not-fictional, the expectation of the viewers is generally that 'that which occurred in front of the camera remains identical to the actual event we could have witnessed in the historical world' (Nichols, 1991:25). For documentary theorist Bill Nichols, documentary practice in one way or the other poses the question "this is true, isn't it?"... a question that sets a particular dynamic between the filmmaker and her audience, a dynamic of trust, and therefore of authorial responsibility. Stating that documentary is not easier to define than "love" or "culture", since it is always relational, comparative and culture specific, Nichols proposes to give a multiple definition of what is for him a "fuzzy concept" (2001:21) that is prone to contestation and change. Nichols strategy is to define documentary from three different points of views, conscious that 'each starting point leads to a different yet not contradictory definition' (1991:12). The three points of views he proposes are: the filmmaker, the text and the viewer. The acknowledgment that the user's expectations are as important as the filmmaker agenda in defining documentary, and that technology has an active role in shaping a film, are for me the strengths of Bill Nichols' contribution to the subject matter. In a way I see his approach as a systemic one, where more than one point of views are considered in order to define an artefact², an approach that particularly suits this research.

If one starts from the filmmaker, two are the possible angles to understand what a documentary is. First it can be seen as an artefact produced by someone that considers himself a documentary filmmaker, and second it can be seen in terms of the power that the filmmaker exercises while filming. A common way of defining documentary is to see documentary filmmakers exercising less control over their subjects than their fictional counterparts (Douglas Gomery, Bordwell, Thompson etc...). The position and power of the filmmaker is here the focus of the definition. While this definition has the advantage of highlighting the role and influence of the filmmaker in the creation of her artefact it has the disadvantage of being quite vague regarding what is meant by "control" (control of actors? of events? of framing? of what might happen? of distribution? of sponsorship? etc..).

Another possibility is to define documentary as a film genre as many others, in other words as a type of 'text' (Nichols, 1991:18). But the problem with this approach is

¹ Film maker and critique John Grierson, in the 30's, had defined documentary as "creative treatment of actuality" highlight the possibility of staging and re-enacting filmed scenes, but the as documentary making style evolved towards a less interventionist style - Direct Cinema in the 60's, and later DV realism of the 80's - the idea of staging reality became less popular.

² Also this type of approach has its critiques: in his article *Documentary in a Post-Documentary Culture? A Note on Forms and their Functions* communication theorist John Corner sustains that a documentary is not a word that simply describes an end product, but a set of relations: "Specific production practices, forms and functions all work to 'hold together' (or not) the documentary identity at different times and places. Briefly put, they concern how a film or programme was made (according to what recipes, methods and ethics), how it looks and sounds, and what job it was designed to do..." (Corner, 2007:2).

that it implies assessing which characteristics films must have in order to be part of this genre. Now, as Bill Nichols points out, this would mean over simplifying the different styles that documentary had during the past century and cutting out any attempt to do things differently. This definition starts from a structuralist paradigm and does not accommodate well for evolution. It is therefore also not particularly useful in the quest for a definition of digital interactive documentary.

Finally, another option is to define documentary from the point of view of the users. One fundamental expectation of documentary is 'that its sounds and images bear an indexical relation to the historical world' (Nichols, 1991:27). The documentary is often perceived as realist, the assumption of the viewer is that things have happened in front of the camera as they would have happened if the camera had not been there. Whether this assumption is true or false is irrelevant here, what counts is the expectation of the viewer. Film critique Brian Winston has dedicated several books, the most famous being *Claiming the Real*, to argue that documentary does not tie with realism but with subjectivity, but this does not mean that his views have reached, nor persuaded, the majority of documentary viewers. This definition has the advantage of showing the possible contrasting expectations between the filmmaker and the viewer, but it is very subjective and cultural specific, and it depends on the viewer's acquaintance with a specific style. This being said I like the idea of including the viewer/user in the definition of an artefact, it puts the emphasis on the artefact as a relational object and diminishes the importance of ownership of the artefact.

Nichols also offers another possible approach to delimit what a documentary might be. This time, rather than concentrate on its players he concentrates on its "modes". The *modes of representation* are 'basic ways of organizing texts in relation to certain recurrent features or conventions' (1991:32). A mode conveys a perspective on reality, because the logic that a documentary follows, in its structure, says a lot, as we have seen in the introduction of this research, about the positioning that the filmmaker, and its audience, takes while trying to mediate reality. The emphasis here is on *how* the documentary is made, what its structure means and how it does position the different players involved. *How* does it create meaning rather than *what* meaning does it want to convey. I see the modes of representation as a meta-logic, as a frame that roughly summarizes the different positions that the filmmaker, the filmed subjects and the viewers have taken so far³. In *Representing Reality* (1991) Nichols describes four main modes of representation that he then upgrades to six in *Introduction to Documentary* (2001). Those six modes are:

- *The Poetic Mode* - reassembling fragments of the world, a transformation of historical material into a more abstract, lyrical form, usually associated with 1920s and modernist ideas. Some examples: Luis Bunuel's *Un Chien Andalou*

³ Nichols schematization has been highly criticised by Stella Bruzzi for being too rigid and historically incorrect (2000), but Nichols does state more than once that his modes can be co-existent (1991:32) and that they constitute a 'loose framework' (2001:99) that is only roughly chronological.

The relevance of those modes for me is that they constitute an attempt to see patterns and conventions that a film might adopt, and I believe that it is exactly those conventions that are revealing about the negotiation that a society has with reality. The fact that those conventions are not rigid, that they can be mixed or changed does not, from my point of view, contradict Nichol's thinking. At the worst, it could mean that a new terminology could be proposed.

- (1928) and *L'Age d'Or* (1930), Oscar Fischinger's *Composition in Blue* (1935).
- *The Expository Mode* - arose from the dissatisfaction with the entertainment figures of fiction film, social issues assembled into an argumentative frame, mediated by a voice-of-God narration, often associated with 1920s-1930s. Some examples: Leni Riefenstahl's *Triumph of the Will* (1935), Robert Hughes's *The Shock of the News* (1980).
 - *The Observational Mode* - introduced a mobile camera and avoided the moralizing tone of the expository documentary as technology advanced by the 1960s and cameras became smaller and lighter, able to document life in a less intrusive manner, there is less control required over lighting etc, leaving the social actors free to act and the documentarists free to record without interacting with each other. Some examples: Friedrick Wiseman's *High School* (1968), Pennebaker and Leacock's *Primary* (1960).
 - *The Participatory Mode* - the encounter between film-maker and subject is recorded, as the film-maker actively engages with the situation they are documenting, asking questions of their subjects, sharing experiences with them, and stressing the actual lived encounter between the filmmaker and the subject or the environment. Some names: Dziga Vertov's *The Man with a Movie Camera* (1929), Jean Rouch's *Chronicle of a Summer* (1960).
 - *The Reflexive Mode* - demonstrates consciousness of the process of reading documentary, and engages actively with the issues of realism and representation, acknowledging the presence of the viewer. Corresponds to critical theory of the 1980s. Some examples: Chris Marker's *Sans Soleil* (1983), Trinh T. Minh-ha's *Surname Viet Given Name Nam* (1989).
 - *The Performative Mode* - acknowledges the emotional and subjective aspects of documentary, and presents ideas as part of a context, having different meanings for different people, often autobiographical in nature. Some names: Michael Moore's *Roger and Me* (1989), [Jennie Livingston](#)'s *Paris is Burning* (1990).

At the core of Nichols vision is the belief that the 'the word documentary must itself be constructed in much the same manner as the world we know and share. 'Documentary film practice is the site of contestation and change' (1991:12). Nichols approach is particularly relevant to this research. On one hand Nichols does not coin a single definition, but chooses three points of views (the filmmaker, the text, and the viewer), and on the other hand he sees those three points of views constituting an overall logic that creates the documentary mode of representation of reality. I would like to maintain this approach when analyzing the digital interactive documentary in the second part of this Chapter. In defining the digital documentary I will too adopt a systemic approach (taking in consideration the author, the user and technology⁴) but I will conclude that those are not *modes of representation* but *modes of interaction* with reality.

⁴ By technology I mean the support and form of the documentary. The film and video forms have different affordances from digital media. If by 'affordances' we accept the definition of William Gaver as 'material properties of the environment (or media) that affect how people interact' (Gaver, 1996:1) it is easy to see how a networked media such as the internet is meant to give a different form to the documentary than a celluloid media such as the film.

Classical documentary text books seem to take a completely different route to define documentary. They do not approach it from the points of view of its players but from its aims and goals. A quick look to the titles of some classic books is quite revealing: *Claiming The Real* (Brian Winston), *Representing Reality* (Bill Nicholls Documentary), *Imagining Reality* (Macdonald and Cousins), *Documentary – The Margins of Reality* (Paul Ward) etc... ‘reality’ seems to be a dominant key word in documentary making. If the documentary forms deals with facts, with a reality out there, then the issue for me becomes to understand how is the relation between physical world and media negotiated. This is why I will prefer Nichols’ approach in this research. Bill Nichols claims that documentary cannot be seen as ‘reproduction of reality but as a representation of the world we occupy’ (2001:20) and that it ‘frames and organize (reality) into a text’ (1991:8). Journalist and documentary theorist Brian Winston underlines the fact that the presentation of factual material is mediated by a subject (the filmmaker) and by a media (film, video, new media) and this mediation is not neutral (1995). Documentary theorist Stella Bruzzi has given particular emphasis to the role of the filmmaker stating that documentaries are ‘performative acts whose truth comes into being only at the moment of filming’ (2000:4). For her the documentary is ‘a negotiation between reality on one hand and image, interpretation and bias on the other’ (2000:4).

The aim of documentary has therefore evolved from representing reality, to order reality, to finally becoming a negotiation with reality⁵. But what does negotiation really mean? Bruzzi sees the filmmaker as invading a space and influencing it – leaving behind the illusion of an objective film that inspired the Direct Cinema of the ‘60s and some DV Realism of the ‘90s. For Bruzzi, the disruption of reality by the performance of the filmmaker is what makes the meaning and the value of the documentary. She sees the documentary as ‘a dialectical conjunction of a real space and the filmmakers that invade it’ (2000:125). The emphasis on the role of the filmmaker is for me both the strength and the weakness of Bruzzi’s argument. If on one hand her definition highlights the active role that both the filmmakers and the subjects that are filmed have in producing ‘a reality’- that is then mediated and given meaning by the filmmaker (in the process of editing)- on the other hand it puts the filmmaker, and his/er performative act, at the centre of the creation of meaning. Taking as an example the accidental 22 seconds 8-mm footage shot by amateur Abraham Zapruder of the assassination of president Kennedy⁶, Bruzzi stresses that ‘although an image can document, it has no meaning without the context that is the film’ (2000:9). Although the Zapruder film is factually accurate it ‘cannot reveal the motive or cause for the actions it shows’ (2000:21). For the footage to acquire sense it needs to be part of a structure, a logic, an access point to reality that is the documentary itself. This puts the filmmaker, as a performer while filming and a decision maker while editing, as the sole responsible for the creation of meaning.

And what if the filmmaker is not filming at all? What if it is people dislocated in different places, or maybe in the same one, that record footage on their mobile phones and send it to a web server? What if the context is not a film but a website?

⁵ This evolution does not have to be seen as strictly chronological, but as movements and tendencies that can co-habit in the same documentary.

⁶ Zapruder was a women’s clothes manufacturer that intended to shoot a family record of President’s Kennedy visit to Dallas the 22nd of November 1963. As it happened Zapruder’s 8-mm footage ended up being the a very important record of the President assassination.

For the purpose of this research Bruzzi's definition of documentary can be useful, but within certain limits. The view of documentary making as a negotiation with reality will be retained when analyzing digital interactive documentaries. What will be interesting then will be to question how this negotiation might be influenced by the affordances of the media that supports the documentary form, and also to question who is involved in this negotiation. But the notion of the filmmaker as the main performer, and therefore as responsible for the creation of meaning, will be set aside when analyzing interactive documentaries since it might not be relevant once the media affords collaboration and movement in real space (locative media).

Interestingly enough, the *effect* that documentary genre might have does not seem to be considered as defining grounds by most documentary theorists. From a cultural studies point of view it is impossible to isolate documentary as an art form without including it in a wider context of cultural relations. For me the documentary constructs reality while negotiating it, and this is what makes it particularly interesting. 'Documentary, like other discourses of the real, retains a vestigial responsibility to describe and interpret the world of collective experience, a responsibility that is no small matter at all. But even more, it joins these other discourses (of law, family, education, economics, politics, state and nation) in the actual *construction* of social reality' (Bill Nichols, 1991:10).

This sub-chapter wanted to find a definition of documentary that could be compatible with a way to approach digital interactive. Out of the possible routes offered by film theorists I have chosen a mixture between Bill Nichols' and Stella Bruzzi's approaches. From Bill Nichols I retain the idea of starting from the points of views of the main players that the documentary uses to represent/negotiate reality: the filmmaker (author), the viewer (or user) and the media⁷. Those three positions create and express the different modes of representation. I also endorse Nichols vision of documentary as constructor of social reality and will seek new modes of representation made possible by the digital media. From Stella Bruzzi I retain the notion of documentary as a negotiation of reality, keeping in mind that a closer investigation on what this negotiation is, how it is produced and who does it involve is needed in order to advance the understanding of the emergent form that is the digital interactive documentary.

Defining digital interactive documentary

If documentary is a fuzzy concept, digital interactive documentary is a concept yet to be defined. This comes with no surprise, since it is an emergent field, but the lack of writing on digital interactive documentary has also to do with the fact that new media artists do not consider themselves documentary makers, and therefore they call their work anything but interactive documentaries. In 2002 artist and academic Mitchell Whitelaw was noticing the rise of the terminology "interactive documentary". For him the step from using digital desktop video to being able to upload onto the web (plus the burgeoning rise of household broadband) was the cause of such new "swell

⁷ Nichols refers to the text rather than the media, but to me the affordances of the media are the one that allow a certain type of text to emerge.

of interest” (2002:1). Whitelaw also noticed how such form, still largely video based, constituted a problem for the established documentary world. ‘New media forms pose a fundamental challenge to the principle of narrative coherence, which is at the core of traditional documentary. If we explode and open the structure, how can we be sure that the story is being conveyed?’ (2002:1). Effectively, by giving agency to the user, the interactive documentary proposes a non-linear type of narration that is in conflict with the traditional voice of the author, expressed in linear narrative. The problem in defining interactive documentary is therefore not only based on the lack of successful, or mainstream, examples but on the fact that most established documentary and film critics would doubt whether an interactive documentary is still to be considered a documentary because it can lack a strong narrative voice.

The few writers that have tried to define the term have treated digital interactive documentary as an evolution of linear documentary into the digital realm. This means that they have assumed that an interactive documentary is mainly video based and that interactivity is just a way to navigate through its visual content:

- Xavier Berenguer, from Barcelona’s Pompeu Fabra University, sees the interactive documentary as a type of interactive narrative that emerged on the side of hypertexts and games in the ‘80s. For him, when narrative became interactive, through the use of new media, it spread into three main directions: interactive narrative, interactive documentary and games.
- Carolyn Handler Miller, who wrote *Digital Storytelling* in 2004, also sees the interactive documentary as a type of non-fiction interactive movie. ‘The viewers’ she says ‘can be given the opportunity of choosing what material to see and in what order. They might also get to choose among several audio tracks’ (2004:345).
- For media theorist Katherine Goodnow, from the University of Bergen, interactive documentaries comes from the early experiments in interactive film, where physical activity⁸, rather than cognitive activity, is used to browse through live action footage (video or film).

Although this historical approach is quite intuitive it seems to me to have several drawbacks. By tying linear and interactive documentaries together the tendency would be to expect them to be somehow similar, or at least in a clear evolutive relation. I personally disagree with this vision and join artist and new media theorist Mitchell Whitelaw when he says that ‘new media doco [documentaries] need not to replay the conventions of traditional, linear documentary storytelling; it offers its own ways of playing with reality’ (2002:3). Secondly, this historic approach is too vague for the needs of this research because it is based on some fundamental unchallenged assumptions that are left unresolved:

- 1- To see interactive documentary as a sub-category of interactive narrative puts the burden on defining what and interactive narrative might be. This shifts the

⁸ Goodnow makes a distinction between cognitive function (the act of understanding and interpreting) and physical activity (where the ‘audience must do something in order to fulfill the desire to know how the story will end, or to explore alternative storylines’) (2004:2).

discussion on what does it mean to “interact” with a narrative, with an interface, or/and with a computer⁹.

- 2- To see interactive documentary as a mere evolution of the film documentary does not explain how radical this change might be. Several points remain unclear if one does not investigate further:
 - a. Is there any continuity between linear and interactive documentary?
 - b. Who are the interactive documentary makers? Are they filmmakers that experiment with a new media or are they coming from different fields of expertise? If they come from different fields which other conventions do they carry with them when they make their interactive documentaries?
 - c. How much is the media influencing the end product? How much are the different affordances of film, video and interactive media shaping the interactive documentary form?
 - d. Why should interactive documentaries still mainly based on the moving image?

For me a more useful approach would be to start from the assumption that both linear and interactive documentary are driven by a desire to document reality, but that the materiality of the media that they use, and the wishes of their authors and participants, create an all different product. If linear documentary demands a cognitive participation from its viewers (often seen as interpretation) the interactive documentary adds the demand of some physical participation (decisions that translate in a physical act such as clicking, moving, speaking, tapping etc...). If linear documentary is video, of film, based, interactive documentary can use any existing media. And if linear documentary depends of the decisions of its filmmaker (both while filming and editing), interactive documentary does not necessarily have a clear demarcation between those two roles, as we will see in the second part of this Chapter¹⁰. In this scenario, in order to classify interactive documentaries, and to distinguish them from linear documentaries, what counts is to trace the logics of interactivity that forms them, and that make them what they are. It is not the fact of being *digital*¹¹, that gives them a specific form, nor the fact of *documenting*, but the fact of *documenting in an interactive way*. This is from where I propose to start the

⁹ Although there is a vast literature on this topic, the authors that use the term interactive media are normally not specific about what they mean by this term. Handler Miller describes digital technology as ‘microprocessors, wireless signals, the Web, DVDs, and so on. Interactivity is one of its hallmarks. Older media cannot support back-and-forth communications between the audience and the material - interactivity- and this is a radical difference between the older media and the new. (Miller, 2004:XIII) Berenguer just states that the interactive aspects of the first computer ‘only acquired relevance in the cultural sphere with the appearance, in the eighties, of graphic interfaces and the consequent possibilities’ (2007:1). It is assumed that any choice made by the user, or any feed-back provided by the computer counts as interactive. The nature, the levels and the consequences of this interaction are normally ignored.

¹⁰ The launch in 2007 of the online Disposable Film Festival (DFF) is for me a good indication of how new media (webcams, point and shoot digital cameras, cell phones, screen capture software, and one time use digital video cameras) and the rise of online distribution (YouTube, Google, MySpace, etc.) have create new logics of authorship, where any digital user is a potential producer of short documentaries. For more see <http://www.disposablefilmfest.com/about/>.

¹¹ Considering that since the ‘90s most edit suites were turned into digital edit suites – using editing software such as Avid, Premiere or Final Cut Pro – defining digital documentary via its tools of production would turn most of the documentaries that have been broadcasted in television in the last fifteen years into *digital documentaries*.

next sub-chapter: from a brief history of interactive documentaries based on a classification of their logics of interactivity, or at least the idea of interactivity that inspired their authors.

Interactive documentary: the field so far

This section does not want to be an exhaustive history of the interactive documentary genre, but just to propose some milestones and turning points in the evolution of the genre that, I believe, coincide with changes of notions around interactivity. A limited number of examples will be selected to illustrate how the evolution of the so called new media¹² has created new opportunities and logics to document reality. In the same way Nichols has proposed *modes of representation*¹³ to generalize the different logics that filmmakers have adopted in linear documentary making, I will propose *modes of interaction* to illustrate the ways interactive authors have positioned their users, and used technology, to portray the reality they were interested in via the interactive documentary.

To trace a short history of digital interactive documentaries (it barely started thirty years ago) it would be tempting to adopt a strictly chronological approach, and to assimilate different styles to an evolution of pre-existing genres (educational, simulation, games etc...) or even by topics of interest (travel, history, diary, nature etc...). But those approaches do not investigate the set of relations that are the focus of this research. In order to analyse the different logics of negotiation with reality I propose to do a parallel between the way interactivity has been understood, and used, in existing interactive documentaries, and the relations that it has enforced between the author, the user and the media. The *modes of interactivity* that follow are my first attempt to see the major trends in this field. At the moment those modes will mainly be used to set questions about the relations in interactive documentary between the author, the user, the process of production and the media. For now what interests me is how the interaction between the user and the interface (and software) has been set, and what larger notion of communication inspired it (I see them as ideal interaction model that inspired their authors). Later, in Chapter 3 and 4, those logics will be extended by using the Second Order Cybernetic terminology of feed-back, circularity,

¹² New Media captures both the development of unique forms of digital media, and the remaking of more traditional media forms to adopt and adapt to the new media technologies' (Flew, 2002:11).

¹³ As seen before, "modes of representation" are 'basic ways of organizing texts in relation to certain recurrent features or conventions' (Nichols,1991:32). The features or conventions may arise from technical changes (for example in film documentary the observational mode was made possible because in the '60's cameras became lighter and audio recorders became portable) but they are shaped by the filmmakers (observational filmmakers rarely use voice-over) and depend on the viewers acceptance and participation (the observational mode needs the participation of the people that are filmed and the interest of an audience). Technology, role of the author and role of the viewer/filmed go hand in hand, they express a cultural need, and it is only when they find a balance that they can be called a "mode". A mode evolves into another one when 'the conventional nature of a mode of representation becomes increasingly apparent: an awareness of norms and conventions to which a given text adheres begin to frost the window onto reality. The time for a new mode is then at hand' (Nichols, 1991:32). The shift between a mode and another one is by no way linear and simply progressive. Modes do co-exist and are mutually influencing each other. I see modes as indicators of trends and as a way to encapsulate cultural shifts. I also see the emergence of the new happening both within a mode and between modes.

structural coupling, self-making and autopoiesis. But for now, let us stay within a classic Human Computer Interaction terminology to trace back how the advent of personal computers has inspired several modes of interaction between the content and the user. My hypothesis is that those modes correspond to different visions, and sometimes wishes, of what a more or less open communication with the machine could generate and of where subjectivity can be placed, or be created, in a digital exchange.

The conversational mode

Back to the late 70's: the invention of the optical videodisc¹⁴ allows to store and access up to half an hour of analogue video via a computer. Nicholas Negroponte's Media Lab decides to experiment with the creation of a virtual travelling space, called the Aspen Movie Map¹⁵. The aim is to let a user drive through the entire city of Aspen, Colorado¹⁶. In the 'media room' a user can control speed and direction of travel into a city by interacting with a screen interface. Andy Lippmann is the director of the project. He is inspired by a vision of interactivity as a 'mutual and simultaneous activity, on the part of both participants, usually working towards some goal, but not necessarily' (Brand, 1988:46). For him, to be interesting a conversation needs to be interruptable (interruptibility¹⁷), an unanswerable request should lead into a smooth transition (graceful degradation), sentences –or moves- should be decided on the fly (limited look-ahead), sentences needs to feel unpredictable (no-default) and the conversation needs to feel potentially endless (impression of infinite database). In a conversation between Brand and Lippmann, published in *The Media Lab*, Lippmann clearly explains that his inspirational model for Human Computer Interaction (HCI) is the one of a conversation, as opposed of a lecture. To be successful, and fulfilling for the participator, a conversation must be an exchange rather than a passive listening. Obviously technology was not able to create a really open computational space (this is still a challenge nowadays) but the inspirational model for the interaction between Aspen Movie Map and the user is the one of a conversation: the user is to feel free to improvise movement at any moment and the software has to smoothly respond to such decisions.

¹⁴ The optical videodisc was capable of storing a half-hour of analog video (54,000 frames) and two-channel audio, with instant access to all the material via computer control.

¹⁵ The final project took shape at the Media Lab, 'where the material was organized, edited, and mastered onto a videodisc. The controlling software and interface design, with the additional help of ArcMac graduate students including Steve Yelick, Paul Heckbert, and Ken Carson, turned the mass of material into a singular virtual travel experience. By Summer, 1979, the Aspen Movie Map was ready for its first demo, and it caught the attention of the press'.

From <http://www.naimark.net/writing/aspen.html> . Retrieved 10.05.08.

¹⁶ In *The Media Lab* Steward Brand explains that the viewer could 'drive at will down any street, turning any direction at any corner, and the appropriate film shown. You can shift the scene any time to any season, look forward, to the rear, or either side, and stop and explore any building.' (1988:49)

¹⁷ Interruptability, graceful degradation, limited look-ahead, no default pathway and impression of an infinite database are the five corollaries, or properties, that Lippman sees as essential to attain true interactivity.



Fig. 1: The Aspen Moviemap experienced in the “Media Room” at the Architecture Machine Group, MIT, c1980. The “traveler,” seated in an instrumented armchair, controls speed and direction of travel. Touch screens displaying map and aerial views allow access to additional multimedia material. (Photo: Bob Mohl)
 From <http://www.naimark.net/writing/aspen.html>

The Aspen Moviemap was not openly called an interactive documentary, it was seen as a virtual interactive drive in the city, but to me it shows the initial hopes on a new format: the real, the city of Aspen, is not explained to the user, but it is simulated for the user. The idea of documentation passes from explanation of reality to simulation of reality. The user needs to feel free to drive and to explore without crashing the system nor feeling its limitations. The author, in this case MIT’s Architecture Machine Group, uses the computer as a simulator of reality, they choose what can be ‘made with this reality’ (turn, stop, touch the wall etc...). Although the video disk has limited storage capacities, the interaction is meant to feel limitless, the user should not feel trapped in a pre-defined and authored system. The role of the author is in a way to trick the user using real-time interaction and strong agency. Is agency, the empowerment of the user, enough to mask what effectively is a closed system?

The conversational mode aims at a system that really becomes alive. Lippmann’s vision of a limitless conversation with the computer is still technically impossible, but its simulation is becoming more and more convincing as speed and memory of computer expand. Computational theorist Michael Murtaugh sees ‘liveness’ as a recurrent theme in computational interactivity ‘interactivity always involves simultaneity, as computations occurs iteratively through feedback to a shared and changing environment’ (2008:146). Today we can see the Holy Grail of liveness as more present then ever: the use of Artificial Intelligence in games and the extension of the environment of interaction from the screen to physical space in locative projects are two different ways of re-placing interaction into a world (artificial in the case of 3D environments, or physical in the case of locative projects). The assumption here is that to interact with a world is like conversing with it: it is open to endless possibilities (impression of infinite database) and both the user and the environment react real time to each others (limited look-ahead).

Artificial intelligence was first applied to games, and then to interactive narratives¹⁸, but recently hybrid forms of docu-games have emerged, blurring the boundaries

¹⁸ See *Façade* (2005), by Mateas and Stern, for an example of AI applied to a purely narrative story (with no game logic). Go to www.interactivestory.net.

between entertainment and documentary¹⁹. The first interactive narrative that was clearly recognized as more than a game was *Sim City*. Will Wright's simulation game (first released in 1989) creates narrative on the fly generating different events depending on the decisions that the user has taken when building the virtual city. Then years later, with *The Sims*, the same logic is applied to characters of a family, bringing game and narrative closer than ever. *The Sims* (2000) is a 'dynamic simulation running in real time' where the 'social universe no longer needs to be sampled but can be modeled as one continuum' (Manovich, 2004:4). In *The Sims* the player creates a family and then sees them evolving; *The Sims*, the virtual characters, are 'alive' even when the player is not active²⁰. Manovich sees in *The Sims* a 'wonderful opportunity to address one of the key roles of art – a representation of reality and the human subjective experience of it – in a new and fresh way' (Manovich, 2004:4).

In 2002 the use of artificial intelligence to build realistic worlds was applied to a game released on the internet by the U.S military: *America's Army*. The intention was to 'provide civilians with the insight on Soldiering from the barracks to the battlefields'²¹. The game, says new media documentary maker Randy Horton, was 'conceived, produced and distributed entirely as a documentary project' (2008:5) and military personnel would test and give feed-back on the game to ensure the authenticity of the experience. This type of product positions the performativity of the documentary filmmaker into the player and aims at creating real time experiences in digital worlds. One can question to which point a simulation is a type of documentation but the learning that follows the simulated experience is a more embodied encounter of U.S military life than the one gained by watching a documentary on the same subject. *America's Army* is often quoted as an example of docu-game because it is designed to gain experience and understand a reality that is normally inaccessible to us (military life)²².

Computer games have also used artificial intelligence, archive material and statistical data to re-enact a situation that has really happened in the past. *JFK Reloaded* (2004) recreates the last few moments of Kennedy's life and challenges participants to help disprove any conspiracy theory by recreating the three shots that Lee Harvey Oswald made from the sixth floor of the Dallas book depository. It has taken a ten-man team seven months to research the information from the Warren Commission report and to accurately recreate the surroundings and events of 22nd November 1963. Players get the highest score if they perfectly re-enact the shooting sequence and place the three bullets at the exact trajectories described by the Warren commission. For new media

¹⁹ In 2002 the movement 'Serious Games' was launched after *Americas Army* video game's success to prove that games could go beyond their entertainment value. (*Americas Army* is a simulation game that gives a thorough inside to what it means to be a soldier in the USA army. To play the game online go to <http://www.americasarmy.com>). Another movement, Games for change (G4C) tries to promote the use of digital games to promote social change (raising issues around race, environment, human rights, health etc... For more information see <http://www.gamesforchange.org/>).

²⁰ In her article *Peeling the Onion: Levels of Interactivity in Digital Narratives*, Marie-Laure Ryan describes the Sims as 'perhaps the most powerful interactive narrative system in existence today' (2005:20). For her the game 'simulates the randomness of life rather than the theology of narrative' (2005:21).

²¹ Promotional text on the website itself. See www.americasarmy.com.

²² The final aim is actually to recruit new soldiers. This is probably enough to make us question the nature of documentation about "real" soldier life provided in the game.

documentary maker Randy Horton *JFK Reloaded* 'definitely has documentary qualities, and is intended to be much more than a simple game' as 'it attempts to reveal certain facts and empower a subjective truth within the player' (2008:10).

Both *JFK Reloaded* and *America's Army* use AI to recreate a virtual world that is supposed to simulate an existing physical world. The logic used by the authors is to create a space that feels alive to the user in order to facilitate a conversation between the two. Another way to create liveness of interaction is to locate the interaction in a "real" physical space, rather than a virtual one. Projects such as Christian Nold's *Emotional Maps* (2005) and Blast Theory's *Rider Spoke* (2007) (both discussed in the "experiential mode" section) use pervasive computing and locative media (mobile phones, GPS systems, Personal Digital Assistants etc...) to position interaction in a physical space. In the examples that I know of the interaction with the device itself is quite limited (recording body impulses, body positioning or voice messages) but the feeling of liveness comes from the freedom of interaction with the space. For now, since I am not aware of a locative project that I would define documentary based, and that is inspired by an idea of interaction with the digital device, and the space, as "alive" and "conversational"... I will not put an example in this section. But I rest convinced that, since this is an area in constant development, there will soon be locative documentaries that follow a conversational mode of interaction.

If until now I have concentrated on the interactive mode that has inspired the authors of such projects, I now want to turn to the users and question how this mode of interaction effectively positions them while they experience the digital interactive documentary. What is the function of the user in conversational mode? What relation is created between the artifact, the technology, the author and the user when a conversational type of nonlinear narrative²³ is created?

For this I will need to turn to digital media theorist Aarseth and to his analysis of 'active feed-back functions' (1994:60). Following Aarseth's analysis, when a user is faced with a nonlinear narrative, he/she can be active in four different ways²⁴:

- the explorative function (the user decides which path to take within pre-set options)
- the role-playing function (the user assumes strategic responsibility for a character in a world described by the text)
- the configurative function (the user can create or design part of the narrative)
- the poetic function (the users actions, dialogue or design are aesthetically motivated)

In the conversational mode the user can have a role-playing function (driver in *Aspen*, soldier in *Americas Army*, killer in *JFK Reloaded*) or a configurative function (on [January 10, 2008](#) the *SimCity* [source code](#) was released under the [free software](#) General Public license allowing players to change the rules of the game). The author, on the other hand, has the role of 'world creator'. By simulating a world, with its own

²³ Aarseth defines a nonlinear text as 'a work that does not present its scriptons in one fixed sequence, whether temporal or spatial' (1994:57) - where a 'scripton' is 'an unbroken sequence of one or more basic elements of textuality' (1994:57) (for example a sentence in a text or a scene in a film).

²⁴ Aarseth also notes that the interpretative function (the possibility to subjectively interpret a text) is always present in both linear and non linear texts.

rules and “things that can be done”, he/she also decides the type of agency that the user will have. When the world can also be generated by the users, the author becomes a facilitator and an initiator. The conversational mode is therefore placing a role-player (the user) in a digitally simulated reality, or a physical reality, and creates constant scenarios that appear to be limitless to the user. No one, neither the user nor the author, are in control of “what will happen next” as the computation possibilities are too many to be predictable. The documentation is therefore not controlled but simulated and reality is not predictable but “to be experienced”.

The hitchhiking (or hypertext) mode

Ten years after the Aspen Movie Map, in 1989, the technology is perfected and the introduction of personal computer as objects of mass consumption makes a project as *Moss Landing* possible. *Moss Landing* is probably the first piece of digital production to be officially called ‘interactive documentary’. In 1989 Apple Multimedia Lab organizes a one day shoot in the small American town Moss Landing. Several cameras shoot simultaneously the life of people in Moss Landing’s Harbour. The user will be able to click on certain objects, or locations, of a “hyper picture postcard shot”²⁵ and this will start a video that shows the point of view of the person, or position, that has been clicked on²⁶. As explained by one of the filmmakers²⁷ the metaphor is the one of hitchhiking ‘where one starts a ride with someone and continues with another one’.



fig.2 Moss’s hyper picture
(all images from Moss Landing’s archive video, MIT Lab)



fig.3 Moss’s hypertexts



fig. 4 Moss’s video mosaic

To me the logic of interaction that is behind Moss Landing goes back to what the computer does better: algorithmic²⁸ computation. Each link offered to the user goes to a specific destination, established by an algorithm²⁹. The current computer has its origins in the Turing Machine³⁰. Although Turing³¹ never saw a working prototype of

²⁵ As defined at minute 37 of Moss Landing archive video. MIT Lab, 1989.

²⁶ It is for example possible to click on a seagull and see the footage shot from a helicopter that simulates the view of the harbour from the bird’s position. Grieson’s good old definition of documentary as “creative treatment of actuality”, could might be still relevant...

²⁷ Minute 34 of Moss Landing archive video. MIT Lab, 1989. The name of the person interviewed is unknown.

²⁸ An algorithm is a ‘systematic procedure that produces –in a finite number of steps – the answer to a question or the solution to a problem’ (Eberbach, Goldin and Wegner, 2004:159).

²⁹ Computation is also behind the previously discussed conversational mode but there the computer had to simulate endless possibilities (while in reality they are a finite number) while in the hitchhiking mode the point to point nature of computation is transparent: each click of the user jumps to a predetermined location.

³⁰ Although the Turing machine was a mathematical abstraction it has inspired the logic behind physical computers.

his ideas, in the 1960's Turing machines were adopted as 'a complete model for algorithms and computation problem solving' (Eberbach, Goldin and Wegner, 2004:161). According to Eberbach, Goldin and Wegner (2004), the computers inspired by the Turing machine have three main properties:

1. they model a *closed* computation (which means that all the inputs are given in advance, therefore it is not open to the outside world)
2. their resources (time of computation and memory storage) are *finite*
3. their behaviour is *fixed* (each computation starts in an identical initial configuration)

A close look at Moss Landings finds a database of video material which is *closed* (pre-set by the author), links that are algorithmically defined to jump from one video to another one (videos that are limited in number and duration by the *fixed* resource that is the computer memory) and a starting point for the user that is *fixed* (the "hyper picture postcard shot"). In this algorithmic logic of computing interaction there is no space for the unexpected, and no opening to what is external to the system. The computer was built to do algorithmic computation and therefore what it does best is linking, solving, calculating, finding etc... This is probably why this logic of interaction has repetitively been applied not only to informational content, but also to narrative content. Most interactive documentaries stored on CD-Rom and DVDs³² are based on the hitchhiking model, which is actually more frequently called a hypertext³³ model. Hypertexts were originally text based, but their logic got applied to video or to pictures. Moss Landing is an early example of 'multi-media hypertext' designed to jump³⁴ between different media modalities (from text to video, from photo to map, from video to video etc...) within a narrative frame.

Interactivity then is not a conversation anymore, its fluidity has been lost, it has become an exploration through pre-established routes. The reality that can be expressed with this logic is browsable but pre-determined. The author can retain a fair control on the narrative that she wants to communicate and the level of control will

³¹ Alan Turing was an English mathematician that proved that a machine (later called the Turing machine) could perform any conceivable mathematical problem if it was represented as an [algorithm](#). This logic of computation, an algorithmic one, has forged what the computer is nowadays. Computer theorists Eberbach, Goldin and Wegner highlight in their article *Turing's ideas and models of computations* that although Turing concentrated his efforts and research on the algorithmic machine he also envisaged other options: the automatic machine, the choice machine and the oracle machine.

Turing died prematurely in 1954 at the age of 42.

³² I would tend to put in this mode a very varied array of interactive documentaries. From artistic projects such as *Inmemory* of Chris Marker (CD-Rom, 1997) to more educational DVDs such as *Bleeding Through Layers of Los Angeles, 1920-1986* By Norman Klein and the Labyrinth Project (2003). Although those projects are very different in terms of design style and depth of video storage, they both mediate a layered reality (Chris Markers memories and Los Angeles evolution in time) putting the user in the role of an explorer.

³³ Hypertext fiction entered the narrative arena in the 1980's. A series of texts were linked via hyperlinks using a software called Storyspace. The reader could then navigate the networked texts (called Lexias) by clicking on hyperlinks (what has now become the standard blue text that symbolised that a word is an active link). Classic hypertexts examples are Michael Joyce's *Afternoon* and Stuart Multhrop's *Victory Garden*.

³⁴ For new media theorist Aarseth the main feature of hypertext is discontinuity, 'the jump, the sudden displacement of the user's position in the text' (1994:60).

depend on the extent of the branching structure that holds the different pieces of the story. As Murtaugh notices, ‘the popularity of the web and hypertext has bound the idea of interaction to branching link structures’ (2008:143). By clicking on a word, by moving a mouse, by selecting within a menu the user navigates between a number of pre-set options. The environment is not unpredictable anymore, but just explorable. The logic is the one of choice. The author creates scenarios, the software links assets of a database and the user chooses routes.

What type of negotiation with reality does the hitchhiking mode propose? Reality is not anymore a co-creation that happens through mutual conversation between the user and the author, via the media, but a set of possibilities where the user is a guest rather than a participator. Although the user is described as ‘active’ by most multimedia hypertexts authors (Simones, Rothuizen, Klein, Thalthofer et al.) one might question what ‘activity’ means for them. Followers of Michel de Certeau’s *Practice of Everyday Life* will see in our daily choices an act of subjectivation and freedom but I am not sure that the choices given in a branching narrative have the same liberating effect that the one we do in a daily basis. To start with when one explores a hypertext narrative a large part of the motivation is the curiosity of seeing “what this is all about”. The expectation is still to find what the author wanted to communicate. But is this enough to sustain a long engagement with the piece? The author’s assumption is normally that the user’s incentive is in the pleasure of exploration, the curiosity about different points of view, or maybe, in a documentary context, the wish to learn³⁵. But is this really enough? This answer seems to suit the authors more than the users themselves. I personally believe that branching narratives are very effective in a learning environment (when the user has a strong motivation to browse content) but less effective in a narrative environment (where the user still expects narrative leadership from the author and does not find it in a logic of choices).

A multitude of examples are here to engage in such debate: *Moss landing* (1989) proposes to explore the city harbour by choosing between the point of views of the people that live there, *Inmemory* (1997, CD-Rom) proposes to browse through author’s Chris Marker’s memories, *Bleeding Through: Layers of Los Angeles, 1920-1986* (2003, DVD-Rom) proposes to explore the evolution of Los Angeles through different layers of narrative. Extending the same exploratory logic to another new media, the web, more hypertexts documentaries have been made in the last fifteen years: *Lewis and Clark Historic Trail* (2003, web) allows the user to discover Meriwether Lewis and William Clark’s expedition across the Louisiana Territory; *Last Tourist in Cairo* (2006, web) offers maps, photos and drawings that Jan Rothuizen took while visiting the city, and *Forgotten Flags* (2007, web and DVD) offers to travel through an unknown Germany by seeing interviews with the Germans that did put their national flag out of their houses after the 2006 Football World Cup. All those projects have in common the attempt to portray a factual reality through a searchable archive, or database. The condition is that the database is closed -not extendable by the author nor by the user. The way to explore the database is the

³⁵ In a fictional narrative context the incentive is even less clear. The user operates on the level of narrative discourse (the order of the presentation of the events) as opposed to the level of the story (the plot itself) (Ryan, 2005:7). Is choosing what part of a story to explore first of any interest? For the ludologist Andrew Glassner, hypertext only kills the narrative pleasure of novels and movies (2004:469).

hypertext - a word, a drawing, a picture or a moving image- that does re-direct the user to the continuation of the reality that she is exploring.

Brazilian filmmaker Nina Simoes calls this type of interactive documentary the 'docufragmentary', a database of video segments controlled by a software that 'invites an active viewer to reflect and to create their own network of connections'³⁶.

Following once again media theorist's Aarseth classification of feed-back active functions of the user it seems that in the hitchhiking mode the user can only explore. She can decide paths to be explore, but not change nor add to the narrative. The role of the author then is to imagine branching narratives and rules of linking within a set database of text (lexias, videos, photos etc...). The author is not a facilitator like in the conversational mode, but a narrator that experiments with levels of choices within a controlled narrative framework. The hitchhiking mode gives no guarantee of arriving at destination, nor of having an interesting journey, it lies on the assumption that the journey is the most important part of the experience, and that the user enjoys constructing her itinerary and her interpretation of reality.

The participative mode

Around 1995, MIT's Interactive Cinema Group, lead by Glorianna Davenport, explored the possibilities of a digital 'Evolving Documentary'. For certain factual stories, say Davenport and Murtaugh, 'materials grow as the story evolves. For this reason the storage and descriptive architecture must be extensible' (1995: 6). With the Evolving Documentary Davenport and Murtaugh want to push further the logic of the database making it open to change. They designed a browser, ConText, that allows new entries into the database. The authors annotate the 30 seconds video clips of the database with keywords. An Automatist Storytelling System -a sort of narrative engine- produces dynamic and responsive presentations from an extensible collection of keyword-annotated materials. Depending on the interests of the users, ConText plays videos continuously, only stopping the video flow when the user wants to intervene³⁷.

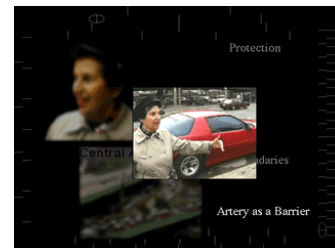
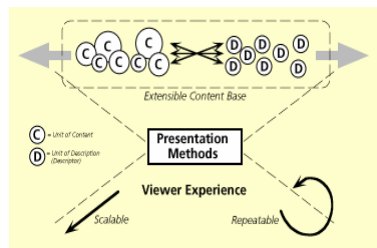
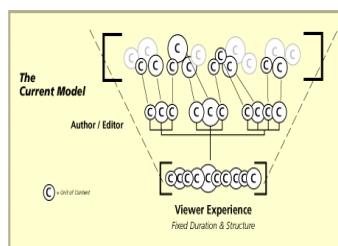


fig 5. The old model fig 6. The Evolving Documentary model fig 7. The browser
(all images from <http://ic.media.mit.edu/Publications/Conferences/ConTextEvolving/HTML/#ref2>)

³⁶ Quote from the Rehearsing Reality website available at: http://www.rehearsingreality.org/index.php?option=com_content&task=view&id=10&Itemid=23, retrieved 3.04.08.

³⁷ In ConText, content is presented when the system detects idleness from the viewer. Thus, the story moves only when the viewer stops interacting. Content continues to be presented until the viewer stops it by clicking or moving the mouse over the interface to alter the story context.

Two main documentary projects emerge from Davenport's group: *Boston Renewed Vistas* (1995-2004), and *Jerome B. Wiesner 1915-1994: A Random Walk through the 20th Century* (1994-1996, web and CD-Rom). Both interactive documentaries allow a certain scalability of the database, but their user role is considered primarily extradiegetic; viewers' actions influence the process of the storytelling rather than altering actual events in the story world. We are back into the logic of the hypertext exploration but with a twist: the video database can evolve. I would call this an expansion of the story world rather than a participation into it. But the seed has been planted...

The metaphor for the participative mode is not conversation nor hitchhiking but, as Davenport and Murtaugh describe it, "a one-sided conversation". 'As the story is told, the viewer is "passive" and attentive to the narrative. Only when the viewer wants to change the course of the presentation does he or she intervene' (1995:5). Lippman's corollary of 'interruptability' is still valid, the system needs to be interruptable at any moment so that the user feels free to intervene, but the other four corollaries are redundant. The 'impression of an infinite database' is substituted by an 'evolving database', where content can potentially be added by both users and authors. The function of the user is both explorative and configurative. The content is first browsed and then potentially added. The author becomes a database creator. She sets the rules and technicalities to fill it with content and then decides what to do with it.

Other levels and types of participation become possible during the first years of the 21st century when the internet is massively used as a networked and collaborative media (also a media for creation) and not just as a distributive media. The high penetration of broadband in Western Countries³⁸ also supports easy uploading of personal video streams into the World Wide Web, and a decent quality of viewing. A multitude of different types of video related experiments then start appearing on the internet and the next seven points are my attempt to agglomerate them together by logic of collaboration or by the positioning that they have on the internet:

1. Several types of video channels emerge on the Net.

Those can be video blog³⁹ channels such as *United Vloggers* (video diaries uploaded by users, that support text comments) video sharing sites, such as *Youtube.com* (sites that contain uploaded videos of any sort – not necessarily autobiographic), or even web channels (commercial companies that create video channels fed by user-

³⁸ Broadband was introduced in Europe (EU 15) around the year 2000. In eight years the quarterly penetration growth went from 1.6% (2001-Q4) to 22.7% (2007-Q4) (data from OECD Broadband Statistics). In 2007 the broadband penetration in the USA was 21.9%, 23.1% in the U.K. and 3.7% in China. Considering the population of each country, this means that the US have the world highest number of broadband subscribers (66,213,257 in 2007) followed by China in second position (48,500,00 in 2007) and seeing the U.K. in sixth position (13,957,111 in 2007). If one looks at internet users, rather than just broadband users, then penetration numbers are even higher. In 2007 73.1% of Americans, and 47.1% of Europeans, were using the internet (against 5.3% in Africa and 14% in Asia). This means that the usage growth of internet has risen of 263% in Europe and 127% in North America, in the last eight years. All data from <http://www.internetworldstats.com/stats.htm>.

³⁹ The so called 'vlogs' started in 2003 with No Filter, created by Italian journalist Maurizio Dovigi. Vlogs allow for the distribution of video over the Internet using either the [RSS](#) or [Atom](#) syndication formats, for automatic aggregation and playback on mobile devices and personal computers. Today's most popular vlogs are Yahoo!'s Videoblogging Group and Google Video's Video blogs.

generated content, such as news channel *Current.com* and documentary channel *submarinechannel.com*).

2. the web is not only used to view, or send videos, but to write comments directly on the video stream.

Example: *Nico Nico Douga* is a Japanese video sharing platform, from 2007, with a difference: users can write their comments directly on the video footage they are viewing. The video gets populated of layers of text comments appearing on specific shots that are literally changing the shot into an evolving layered hybrid media.

The collaboration contained in Nico Nico Douga is changing the materiality of the video. This technology could easily be applied to news reels, or documentary footage, empowering users to respond and participate “on the shot” by changing the materiality of the video itself.

3. The web is used as a distribution channel. It allows:

3.1 the distribution of independent documentaries that have no market in the mainstream television platform.

Example: the *documentarychannel.com*. On their website they explain ‘We feel that the best documentaries are made by individuals not companies. That’s why we’ve created a home where the independent documentary filmmaker is always welcome’,⁴⁰.

3.2 the distribution of documentaries that belong to the archive of commercial televisions such as Channel4, BBC and others. Those can be downloaded for free or within a pay-per-view logic.

4. The web allows established documentary makers to create social communities around the issues raised in their linear documentaries. They use the internet to get feed-back from the viewers but also to open the debate to a larger audience.

Example: Dutch documentary *Over The Hills* (Beperk Thoudbaar, 2007) by Sunny Bergman denounces the obsession for the perfect feminine body propagated by the media. The website of the documentary, <http://www.beperkthoudbaar.info/>, hosts a forum where women can post their own videos and texts and discuss about the relation that they have with their own bodies. The website -that hosts a forum, a manifesto, and some papers and research- has become so popular that one can question if this is not in itself an interactive and collaborative documentary, rather than just the website of a documentary.

5. The web allows social local communities to create collaborative documentaries.

Example: video activist Adnan Hadzi has launched in 2005 a research project on collaborative film-making, *deptford.tv*, an audio-visual documentation of the regeneration process of the Deptford area, South-East London.

Deptford.TV functions as an open, collaborative platform that allows artists, filmmakers and people living and working around Deptford to store, share, re-edit, comment and redistribute the documentation of the regeneration process.

6. The web is used not to view or share videos but to tag and rate them, so to contribute to a collaborative editing praxis.

⁴⁰ From <http://www.documentarychannel.com/main/content/view/1/2>. Retrieved 18.05.08.

The ongoing *Echo Chamber Project*, by filmmaker Kent Bye, is the only project that I know of this type. It focuses on the post-production phase of documentary making. Kent Bye wants to make a documentary that reflects viewers' interests and ideas about the Iraqi war. During the first six months of the conflict he has recorded all major news coverage on the subject (from ABC, CBS and NBC American television) and he has conducted more than 50 hours of interviews himself. He now invites users to tag and rate the visual clips that he has extracted from this video database, and partially uploaded on the web, in order to place them on play lists that will respect the collective user's point of view, rather than the media point of view.

Kent Bye calls this process *collaborative sensemaking*, ideally, he says, 'such system would allow people to add their own context through each of these phases in a way that is both easy to participate and easy to productively make sense of the user input in a cumulative fashion'⁴¹.

7. The web is used to gather video footage from users on a specific topic. This footage is then edited live as part of an art performance.

Example: artist Sarah Turner has asked female participants to send her, through the internet, personal mobile phone videos shot around the topic of 'overheated'. This collection of videos about women's frustrations or feelings was then edited live during a session at the ICA⁴² on the night of the 9th of March 2008. *Overheated Symphony* is a linear documentary entirely created with collective mobile footage.

Those seven typologies of websites exemplify different logics of participation and collaboration. The participation of the user can involve different types of actions: individual shooting (*Overheated Symphony*, *depford.tv*, *Current.com*, *Unived Vloggers*, *YouTube*, *Over The Hills' website* etc...), individual editing (*depford.tv*, *Current.com*, *Unived Vloggers*, *YouTube* etc...), retrieval of video (all of them but not *Overheated Symphony*), annotating video (*Nico Nico Douga*), commenting on video (all of them) or rating video and creating play lists (*The Echo Chamber Project*). What is collaborative in those actions? Are they not all done individually in private spatiotemporal dimensions? The one-to-one relation of the human-computer interface keeps the individual participation as a private moment⁴³. What becomes collaborative is the result of the private participation. The outcome is collaborative, but not the experience of the user. The interactive documentary is partially authored by its collaborators, it is the result of layers of individual inputs that have generated other inputs within a technical environment that has facilitated a creative process. Interactivity with the system is not anymore a way of moving through content (the hitchhiking mode) but to build processes.

If the *Echo Chamber Project* ever manages to produce a final documentary, it is the editing decision list that will be the result of a collaborative logic. The individual vote, or voice, will participate in a sort of democratic decision process. The author, Kent Bye, will be the facilitator and creator of this "election". Compared with the power of the traditional filmmaker, Kent Bye loses his power of ordering (editing) reality. He loses subjectivity in the name of collective interest and democracy.

⁴¹ From <http://www.echochamberproject.com/collaborativesensemaking>. Retrieved 18.05.08.

⁴² The Institute of Contemporary Art in London.

⁴³ Even if social communities allow near-to-real time communication within their members the individual is present with his/her private voice, or comment, not as a collective voice.

In *Overheated Symphony* the process is reversed. The author, Sarah Turner, keeps full control of the editing process, but gives up the selection of the material. The users that are sending her mobile video clips participate by adding a “brick” to a building that they are not building themselves and that they will possibly never see. They give raw material that will then acquire sense through the selective cut of the author. The contribution of the author is a performative act, not while shooting – as in Stella Bruzzi – but while editing.

In social networks and forums, such as *Over the Hills*’ website, the participation of the user consists in engaging with the cause of the forum (in this case ‘women and their bodies’) and to add a personal voice -through text, image or video- to a reality that is complex because it is personal. Subjectivity here is necessary to the creation of the whole. While the documentary could only represent a limited number of women, the website becomes the tool to reach the infinite database that is reality. Here, Andy Lippmann’s ‘impression of infinite database’ doesn’t aim to give a real feeling of interactivity, but to create awareness of a reality that is made of infinite points of views.

Finally, video sharing websites, treat collaboration as ways to populate a database and organize it. *YouTube* would not exist if people were not uploading videos on it. It would also not be browsable if users did not rate and tag other people’s videos. The collaboration here is about creating content, create a presence in the database and become visible to other users. No specific cause is embraced here, no reality needs to be extended by the individual point of view ... to be on YouTube is to exist on the web, to be part of the database⁴⁴.

So, which of those participative examples can be called interactive documentaries? If we take the widest definition of a documentary, as a container for non-fictional material, then probably all of those examples can be considered interactive documentaries - as far as they allow a certain level of interactivity with the content, which rules out websites that just distribute already made documentaries without allowing participation from the viewers. But if we see documentary as a mediation of a precise reality, around a “topic” in a sense, then I would exclude general video sharing websites such as *Google Video* and *YouTube*, because they are too vast – unless one wants to see them as a meta documentary on our society.

The metaphor, the figure, that I suggest for the networked participative mode is the one of *group building*. Each user adds bricks to a building that is constantly evolving and never finished. What sort of negotiation with reality might this enforce? The author is a facilitator, and sometimes a game controller, for a reality that needs the users to be co-created and populated. Exchange and conversation does exist, but often not in real-time. Users can first browse in the exploratory logic of the hypertext mode, and then decide to leave a trace of their passage and reflection by uploading text, pictures or videos. The building is also always in construction and keeps changing form until it has builders. When for one reason or another (people can loose interest and stop participating, technical or economical problems can arise...) the building stops its self-making it becomes somehow dead. Abandoned websites may still have a

⁴⁴ Obviously cases such as Nico Nico Douga are exceptions. By engraving a comment on someone’s else video the participation becomes co-creation of a reality that has as many layers of interpretations that commentators.

presence on the internet, but if they have no traffic anymore, and people stop participating, they become frozen bodies, something similar to a dead body⁴⁵.

The experiential mode

Pervasive computing and locative media are emerging as technologies and processes that promise to reconfigure our understandings and experiences of space and culture. (Galloway and Ward, 2006:1)

When the computer becomes portable and linked to a wireless network, when mobile phones allow access and creation of content from anywhere, when a Global Positioning System (GPS) can roughly calculate the position of a digital device in physical space... then locative media emerges as a technology that uses digital devices in physical space. From a Human Computer Interaction (HCI) point of view this means that interaction happens in a space that is unpredictable and that it is always 'situated' in a dynamic context. For HCI theorists Harrison, Sengers and Tatar interaction becomes 'a form of meaning making in which the artifact and its context are mutually defining and subject to multiple interpretations'. The logic of interaction that locative media needs in order to develop to its full potential is far from Turing's algorithmic computation. If anything it is the opposite. If interactivity is going to happen in a physical and open environment, and maybe with other people, the interaction will depend on multiple variables (people's reactions, weather, slippery shoes, traffic etc...) most of which are not predictable. The system needs to adapt to an environment that is dynamic and therefore it needs to be self-adaptive and evolvable. This type of computation has been called by Eberbach, Goldin and Wegner an *interactive computation*⁴⁶ because it 'involves interaction with an external world, or the *environment* of the computation, *during* the computation- rather than *before* and *after* it, as in algorithmic computation' (2004:173, italics in original).

When around the year 2000 pervasive gaming, learning environments, locative art and non-task oriented computing started to be explored the user moved away from the screen, the graphic interface and the mouse, to be situated in "real" space. From a HCI point of view it meant that the system could not be modeled for every contingency and therefore had to consider the interface and the computation as *embodied* and *situated* (Harrison, Sengers and Tatar, 2007:6, italics in original). In *Greenwich Emotion Map* (Nold, 2005) local inhabitants walk around their neighborhood wearing a device that records their emotional arousal and links the data with their GPS location. They can also record their thoughts and memories while freely walking in Greenwich. The information that is gathered by artist Christian Nold is a situated one, an information that is linked to the place that engendered it.

⁴⁵ In Chapter 4 we will see why the parallel between the participative mode and autopoiesis is particularly relevant: a living organism that stops its self-making activity does effectively die. Autopoiesis then becomes a good model to analyze ephemeral participative interactive documentaries that sometimes last one day, sometimes stay online for years.

⁴⁶ Eberbach, Goldin and Wegner explain that Turing himself thought of the Turing Machines as 'only appropriate for computing recursive functions over integers' and therefore he proposed other types of machines such as the 'choice machine' and the 'oracle machine'. Eberbach, Goldin and Wegner call this alternative view of computation, that Turing envisaged but did not follow up, the 'Super-Turing computation' (2004:174).

Games and art projects were the first to experiment with locative technology⁴⁷. Those have been well documented by Galloway and Ward in their article '*Locative Media As Socialising And Spatializing Practice: Learning From Archaeology*'(2005), but what about documentaries? In the locative papers that I have read so far I have never encountered the term 'interactive locative documentary', but when I had private conversations with interactive artists Christian Nold and Matt Adams (from Blast Theory) they both considered their projects as a way to document a reality through collaboration and physical experience.

Speaking about the technology of biomapping, that he has used in his *Greenwich Emotional Map (2005-6)*⁴⁸, Nold says 'What I am trying to do is to allow people to talk about their bodies in the sense that the body is not something that is being defined as being the site of action [Foucault as the site of powers] but as *you* deciding what your body represents [...] you can start speaking about your body, you can take control back'⁴⁹. For the participants, those who carried the biomapping device, the Greenwich Emotional Map is an experience of awareness; for the audience, that goes to see the documentation of the project in an art gallery or public space, the Greenwich Emotional Map is a physical map, a piece of paper, that documents emotions and feelings about the urban space.

Digital artist and game designer Matt Adams, from Blast Theory, when asked which of his work could be defined as interactive documentary, proposed his locative project *Rider Spoke (2007)* because "it invites the audience to make recordings/testimony on the streets of the city"⁵⁰. For him, as for Nold, the locative project is a way to document people emotions and ways of interacting with the urban space. In *Rider Spoke* the participants are invited to go to the Barbican, a cultural centre in London, with their own bicycle, or to hire one at the venue. A handheld computer (Nokia N800) is mounted on the handlebar of the bicycle. This mini computer has GPS capabilities, an earplug and a microphone incorporated into it. The participant sets off into the streets of London listening to the audio commands of the device. The device asks the participant to find a spot in the city, to stop there and to answer to a specific question by recording the answer into the microphone. The questions can be anything from "Describe yourself. What are you like? And how do you feel?" to "Find a quiet place and tell me who or what makes it all right for you". The answer is then stored with its GPS positioning so that it will be retrievable by any other participant that stops in a nearby location.

⁴⁷ Classical case studies for locative media are *Can You See Me Now?*(2001) by Blast Theory in collaboration with the Mixed Reality Lab at the University of Nottingham, *Bio Mapping (2004)* by Christian Nold, *The Milk Project (2004)* by Esther Polak and *Amsterdam Real Time (2002)* by the Waag Society.

⁴⁸ Christian Nold description of the project on his website is the following: 'The project involved weekly workshops with 80 local Greenwich Peninsula residents with the aim of re-exploring the area afresh with the help of a Bio Mapping device. The device invented by the artist measures the wearer's Galvanic Skin Response (GSR), which is an indicator of emotional arousal in conjunction with the wearer's geographical location. The resulting 'Emotion Maps' encourage personal reflection on the complex relationship between oneself, the environment and ones fellow citizens. In a group, people then commented about their experiences and left annotations on the map.'

Available at <http://www.emotionmap.net/background.htm> . Retrieved 8.05.08.

⁴⁹ Recorded interview. Date: 26.09.07, minute 22.

⁵⁰ From email conversation. Date: 30.04.08.



Fig 8. The device
(All pictures by Sandra Gaudenzi)



fig.9 the device on the bicycle



fig.10 cycling away

The interest of Rider Spoke is that it is a digital artifact that happens in real time (while I cycle) and is a completely private experience (I am alone with my bicycle) and yet I leave traces of my presence (via the audio files that I record) to others that I will never meet but that I can sense (via their audio files). There is privacy and proximity mixed on different levels. The city space is experienced with a new awareness: as when private and public life merges together for an instant. Also, there is no accessible final representational form for Rider Spoke. The audio files that all the participants have recorded in real space have not been used to create a final audio map of London (a logic that has been used by Christian Nold in his emotional maps). Obviously that data sits somewhere in a server, and who knows what Blast Theory will do with it, but at the moment, and in the intention of the artists, Rider Spoke is something to be experimented only by the participants. This cultural object is ephemeral, lasts the time of an experience and stays in people's memories and audio footsteps.

I would personally consider Rider Spoke as a pioneer locative interactive documentary where the mode of negotiation with reality is to physically *experience* it. We are not representing reality but negotiating it by experiencing it through the voices of other participants and through the settings that Blast Theory has put in place. Rider Spoke puts us in relationship with other points of views from the one that we personally experience when we are cycling in the city. It presents us a reality that has layers and that is composed by multiple points of view. Obviously the total absence of video material can be seen by documentary purists as a problem. Rider Spoke would probably be defined by them as a 'digital documentation of riding in London' rather than a 'locative documentary about our personal relationship with self-selected sites of London'. But to me few experiences can be more accurate than Rider Spoke in mediating our awareness of urban space. Any video documentary about someone riding in London would have fail to bring the viewer into a space of personal awareness of his/er environment. The feeling is not just of immersion (as when swimming in water) because Rider Spoke asks you to describe your experience with words. The feeling is of self-awareness (why do I like this spot of London?) and also of awareness of how subjective one's relation with the city is (I can listen to other people that have also select this spot).

The strength of the experiential mode is precisely that it is made to be 'lived'. In the conversational mode the metaphor of HCI was conversation. In hypertext mode it was hitchhiking. In participative mode it was building, what about the experiential mode?

I suggest that an appropriate metaphor would be ‘dancing’⁵¹, an embodied communication mode that depends on the environment, that needs movement, and that counts into the presence of others. In such mode the things that a user/participant can do are nearly endless. For once, all of Aarseth’s active feed-back functions are ticked: the user explores a space (explorative function), plays a character -often himself/herself (role-playing function), participates and adds content to the system (configurative function) and can have an aesthetically motivated journey (poetic function). The author, on the other side, has the role of ‘designing experiences in a dynamic environment’, designing for emergence and interaction with the world.

Summary

This chapter aimed at defining both linear and digital interactive documentary forms by highlighting the complexity of the documentary form and the different possible ways to negotiate and mediate reality. After a brief overview of current definitions of the term it has been clear that “linear documentary” is a fuzzy word, that has changed meaning over time and that means different things to different people. My strategy has therefore been to embrace the fuzziness of the term and follow Bill Nichol’s approach: to use a systemic definition that sees documentary as a set of relations forged between the author, the viewer, the media and what is around them. Those relations are changing with time, they are influenced by social, political and technological change. The different relational logics that have been dominant during last century documentary’s history have been classified as ‘modes of representation of reality’ by Bill Nichols (1991:32). Those modes are ways to ‘frame and organize (reality) into a text’ (1991:8) and therefore they are symptomatic of a logic of ‘negotiation’ with reality (Bruzzi, 2000:125). It is the idea of logics of negotiation of reality that I have retained to analyze digital interactive documentaries claiming that once the user is demanded an active participation in the documentary the negotiation happens through interactivity. But which are the degrees of participation of the user, how can we analyze a digital artifact that varies depending on the actions of the users? There seem to be so many sort of interactive documentaries, how can we create typologies that are not platform specific and that tell us more about the relationships that the interactive documentary attempts to create during its use?

In order to respond to such questions I have proposed to classify interactive documentaries by the ‘modes of interaction’ that they use to acquire a form. Since camera work, shots and editing are not enough anymore to understand their specificity I have argued that it is now interactivity that shapes them. Whether this interactivity is semi-closed (when the user can browse but not change the content), semi-open (when the user can participate but not change the structure of the interactive documentary) or completely open (when the user and the interactive documentary constantly change and adapt to each other) will determine what type of

⁵¹ For dancer and academic Erin Manning, dancing is more than moving in space with music, but a way to create space and body through movement. ‘The dancer’s body is qualitatively different from a body walking to the bus stop because of the variety of techniques that make up the dancing body. The dancer moves not toward a destination, but toward her capacity to shapeshift. This is a key aspect of technique: the dancer learns to continuously relocate the ground as an element of experimental spacetime, creating momentum with and through the ground toward gravity-defying revectorization’ (2006).

interactive documentary they are. I have proposed to call those different modes of interaction the conversational, the hypertext, the participative and the experiential mode. For each mode I proposed a metaphor and I defined its user functionalities, its role of the author and its logic of interactivity. Those modes are not hierarchical, not chronological, and even less exhaustive in representing a field in constant evolution. But they are for me a way to see trends and tendencies in a genre that is not clearly established yet. In Chapter 2 and 4 I will extend such modes and read them in autopoietic terms. By doing so the interactive documentary will be seen as a living organism that relates to its environment through different modes of interaction. Levels of interactive closure or openness will be linked to levels of autopoietic openness to see if cybernetic terminology can help us in understanding further the documentary form. For this the next chapter will be dedicated to explain why I believe that apparently unrelated cybernetic concepts such as autopoiesis, feedback, structural coupling and enaction can be very useful when applied to the cultural analysis of interactive documentaries.

	<i>Interactive documentary examples</i>	<i>Logic of interactivity (different sources)</i>	<i>Function of the user (according to E. Aarseth)</i>	<i>Role of the author</i>
<i>Conversational mode</i> (<i>Metaphor = Conversation</i>)	<ul style="list-style-type: none"> the Aspen Moviemap (1980) MIT Sim City (1989) Will Wright The Sims (2000) Will Wright Americas Army (2002) US Army JFK Reloaded (2004) Traffic Software 	Inspired by Andy Lippman's 5 corollaries: <ol style="list-style-type: none"> interruptability graceful degradation limited look ahead no default impression of infinite database 	Role playing Configurative	To create a world , its rules and the user's agency
<i>Hitchhiking / hypertext mode</i> (<i>Metaphor = Hitchhiking</i>)	<ul style="list-style-type: none"> Moss Landing (1989) Apple M.MediaLab Inmemory (1997) Chris Marker Bleeding through: Layers of Los Angeles (2003) Labyrinth Project Forgotten Flags (2007) Florian Thalhofer Rehearsing Reality (2007) Nina Simoes 	Inspired by Turner's algorithmic computation: <ul style="list-style-type: none"> limited storage computation is closed behavior is fixed 	Explorative	To create possible paths within a closed database
<i>Participative mode</i> (<i>Metaphor = Building or one-sided conversation</i>)	<ul style="list-style-type: none"> Boston Renewed Vistas (1995-2004) Davenport Depford TV (2005-ongoing) Adnan Hadzi The Echo Chamber Project (2006-ongoing) Kent Bye Over the Hills website (2007-ongoing) Sunny Bergman 	Inspired by : <ul style="list-style-type: none"> interruptability evolving database 	Explorative Configurative	To create the condition to populate a database Decide what to do with the database
<i>Experiential mode</i> (<i>Metaphor = Dancing</i>)	<ul style="list-style-type: none"> Greenwich Emotional Map (2005-6) Christian Nold Rider Spoke (2007) Blast Theory 	Inspired by: interactive computation (or the Super-Turing computation) <ul style="list-style-type: none"> interaction with the world infinity of memory and time resources evolution of the system 	Explorative Role Playing Configurative Poetic	To design experiences in a dynamic environment

Table 1. Modes of interaction in digital interactive documentary