

# Nonlinear Narratives: Crossing Borders between Contemporary Film, Art and Digital Media Practice

Christin Bolewski, Loughborough University, Leicestershire, UK

*Abstract: This is a report on a practice-based research project called 'Journeys in Travel', which investigates contemporary modes of nonlinear narratives in film, art and digital media practice. It is a single case study, which suggests as its main contribution to set new ground in the development of nonlinear narratives that the structural form of cinematic essay is a suitable adoption for nonlinear database film, which is referred to as 'database essay'. The video installation 'Journeys in Travel' is based on an algorithmic computer-controlled system and tells a story of travel. The Open Source Software 'PD' (Pure Data), a real-time music and multimedia environment mainly used to create live-algorithmic musical improvisation and (interactive) music composition, controls here an infinite audiovisual narrative. It is a temporary, open-ended arrangement, which sets in motion a seemingly endless chain of references to related topics: Foreign places, tourism, ethnography, globalisation, a hyper-connected world, movement, pace, rhythm and the relationship of film (structure), narrative and travel. 'Journeys in Travel' is designed as a creative investigation into multiple modes of contemporary digital narrative constructions. The database of video and sound elements can act as a source for varying experimental approaches where the 'data' or 'units' of the story are arranged and assembled according to different computer algorithms.*

**Keywords:** digital art, nonlinear narrative, database film, cinematic essay, Open Source software PD

## Introduction

This is a report on a practice-based research project called 'Journeys in Travel', which investigates contemporary modes of non-linear narratives in film, art and digital media practice. 'Journeys in Travel' is a nonlinear database video installation by the author of this paper and tells a complex story of travel. It suggests as its main contribution to set new ground in the development of nonlinear narratives that the structural form of cinematic essay is a suitable adoption for nonlinear database film, which is accordingly referred to as 'database essay'. Referring to recent developments and conceptual approaches in mainstream cinema, film studies, new media theory and fine art practice 'Journeys in Travel' combines knowledge of traditional (linear) and multi-plot storytelling with segmentation of nonlinear storytelling and experimental filmmaking. The video installation is based on an algorithmic computer-controlled system. The Open Source Software 'PD' (Pure Data), a real-time music and multimedia environment mainly used to create live-algorithmic musical improvisation and (interactive) music composition, controls here an infinite audiovisual narrative. It is a temporary, open-ended arrangement, which sets in motion a seemingly endless chain of references to related topics: Foreign places, tourism, ethnography, globalisation, a hyper-connected world, movement, pace, rhythm and the relationship of film (structure), narrative and travel.

The paper examines first different approaches to nonlinear narratives and investigates relationships between travelogue, cinematic essay and digital database narrative. It finally describes how the evaluation of different contemporary modes of nonlinear film has been applied to the creation of the digital database essay 'Journeys in Travel'.



Figure 1 Documentary clips of the database essay 'Journeys in Travel', the database contains clips filmed in Asia, Australia, West Africa, Europe, North and South America © Christin Bolewski 2010

### Nonlinearity in Mainstream Cinema

When looking at the latest developments in film there is an increase of nonlinear and interactive forms, wherein events are portrayed out of chronological order creating a new arrangement of time for dramatic and thematic purposes. This can be seen as an influence of digital nonlinear computer editing, which encourages experimentation with film structure. In opposition to linear film, which tells a story chronologically from its beginning to its end in a fixed arrangement, non linear film is either a fixed film structure, which presents the progression of the story in a non chronological order, for example via flashbacks and forwards, or even, as a database computer controlled film or an interactive installation, a flexible form that allows multiple alignments of the sequences, which are executed in real-time by a computer programme. However, nonlinear film is not an invention of recent times, many filmmakers used it consistently through all eras of film and it even dates back to the silent film era with D.W. Griffith's 'Intolerance' (USA, 1916) and Abel Gance's 'Napoléon' (France, 1927) being early referenced examples: The first provides four distinct storylines intercut with increasing frequency and the latter was intended to be screened partly via triple projection. In the 1990s Quentin Tarantino influenced a tremendous growth in nonlinear films with 'Pulp Fiction' (USA, 1994) by creating an episodic narrative gangster film containing three distinct but interrelated storylines, which are presented in anti-chronological fashion with overlapping contents to create a different experience for the audience who is familiar with the traditional form of a gangster film. Within contemporary film theory and media studies Allan Cameron, David Bordwell, Edward Branigan, Thomas Elsaesser and Marsha Kinder amongst others have developed conceptual approaches to describe this trend of nonlinear or 'complex narratives' in contemporary cinematic form. Terms such as nonlinear, modular, database, generative or forking-path narrative, multiple-draft or mind game films mirror the diversity and the different ways of approaching and assessing this body of films. Most of these conceptual approaches are identified in independent or mainstream Hollywood and international narrative cinema, some in multimedia or fine art context. Allan Cameron uses the term 'modular narrative'. His focus is toward those films similar to 'Pulp Fiction' that function as anti-chronological narratives, such as '21 Grams' (Alejandro González Iñárritu, USA, 2003) and 'Irréversible' (Gaspar No, France, 2002) as prominent examples, which offer "a series of disarticulated narrative pieces, often arranged in radically achronological ways via flashforwards, overt repetition, or a destabilization of the relationship between present and past." (Cameron, 2006, 65) Despite the appearance to the contrary these films are upon closer examination actually largely traditional with a structure wherein the sequences, which drive the plot forward are only presented in a non chronological fashion, yet finally deliver all the information of a traditional plot structure and as such do not present a new norm in narrative cinema. At the end of his text, Alan Cameron rejoins David Bordwell's assessment that "most

of the recent films that 'display, as a central stylistic and thematic concern, a fraught relationship between contingency and narrative order' do not 'constitute a new norm in narrative cinema' and 'follow a structure that is largely traditional with chronological tendencies.' (Simons, 2008, 112)

### **Nonlinearity in Digital Media and Fine Art Context**

Whereas most nonlinear narratives in (commercial) feature film production still seem to aim to tell and resolve a traditional story, at times in non-chronological order, parallel or forking-path narration, much more radical approaches to nonlinear narratives can be found in digital media practice. Unfortunately those examples often create a gap between artists' radicalizing innovation and audiences' quite different expectations. Christiane Paul proposes that "at the core of any digital art project lies the re-contextualization of information in various relational combinations" and that is "inherently connected to the logic of the database." (Paul, 2008, 70) This conceptual approach applied to a re-contextualization of film practice often neglects the viewers expectations and their emotional and physical involvement in a coherent narrative structure, which makes the medium film so powerful and can lead to boredom and frustration while watching a database film. In a database film all media elements are selected from a large database to construct a potentially unlimited number of different narrative film. The database is a collection of discrete items called 'Smallest Narrative Units' or 'SNUs', which are connected at particular branching points, but often lack a strong narrative component. Hence, digital media theorist Lev Manovich suggests that "one of the challenges in creating database films is to come up with narratives that have a structural relationship to the database aesthetics." (Manovich, 2005, 22) Manovich has created himself the nonlinear, database narrative or what he calls 'Soft Cinema' installation 'Texas' (2004). The database of 'Texas' contains 425 clips shot at various locations over several years to capture the iconography of a 'global city'. It is a modern version of a 'city symphony film', a film genre rooted in early avant-garde cinema with an associative narrative structure, which in Manovich's view has a suitable structural relationship to the database (and to cinematic essay). Manovich's aim is to expand the possibilities for new, interactive digital media. However, his ideas apply also to contemporary (digital) narrative cinema. Manovich claims that the classical film editing has already a logic of database narrative: "During editing the editor constructs a film narrative out of this database, creating a unique trajectory through the conceptual space of all possible films which could have been constructed. From this perspective, every filmmaker engages with the database-narrative problem in every film, although only a few have done this self-consciously" (Manovich, 2001, 223). He considers filmmaker Dziga Vertov - again a reference to early roots of cinema - as a pioneer in his database cinema genre as well as the British artist and avant-garde filmmaker Peter Greenaway. Throughout his career, Greenaway has been working on an inclusion of database logic to undermine linear narrative forms. Many of his films progress by recounting a list of items or by using an alphabetic or numeric system.

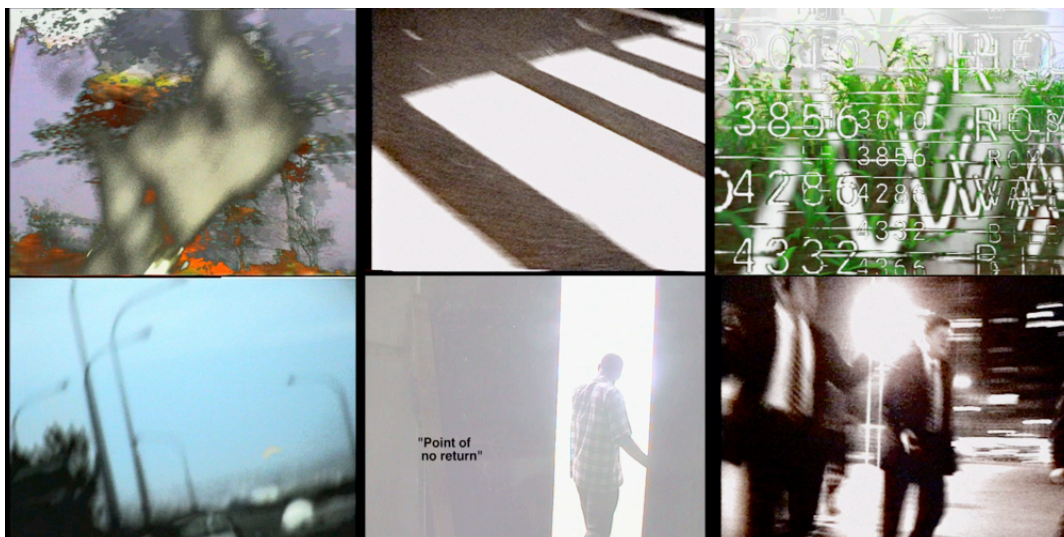
In fine art context Canadian artist Stan Douglas looks at film narrative. He creates what he calls 'recombinant narratives', computer-controlled video installations like 'Journey into Fear' (2001) and 'Inconsolable Memories' (2005) using shuffling permutation of dialogue and scenes to create an absurdist theatre out of film itself. The term 'recombinant' refers to a methodology by which video and sound clips of a narrative plot are arranged randomly at particular branching points generating infinite variations without progression. These persistent permutations may at first seem like a pure formal exercise, but they soon evolve as radical investigations of narrative film conventions. These disturbed narratives do not aim to offer linear cause-and-effect structure of classical Hollywood cinema; instead they create 'productive frustrations', which make the viewer aware of their own habituation and conditioning to traditional film narratives. The viewers expectations are lulled into a traditional narrative by mimicking a linear cause-and-effect structure, but soon after these expectations are denied through the deliberate repetition and combination of visual material and dialogue, which is leaping between times and contexts. The work of Italian artist Andrea Flamini is another example where conventional narrative logics of cause and effect are pushed towards its annulment. Flamini explores the possibilities of generative narratives using random sequences of image and sound as in 'Interior with Bird' (2010), which are set in motion by a user or a database feed, but are not then subsequently instructed. A computer algorithm

controls the further progression and generates permutations of image and sound that lead to, in the case of 'Interior with Bird', a slowly paced visual stream of mostly fragmented details of an interior, which reveals minimal narrative traces.

### Essay Film, Travelogue and Nonlinearity

Paul Arthur writes in 'Essay Questions': "Essays are distinctly process-oriented: they are rhetorical journeys in which neither an exact route nor final destination are completely spelled out. The essay assumes that what it tells us, and the order in which it is communicated could have taken an entirely different route, that it is one of several possible versions of the same concept. It delights in quirky arcs of logic sudden digressions, unexpected epiphanies, pauses for self-reflection." (Arthur, 2003, 58) What Arthur describes here can be seen as one of the basic components used in several new modes of nonlinear storytelling. Relationships between cinematic essay and nonlinear database narrative have not yet been intensively investigated and emerge therefore as an important aspect of 'Journeys in Travel'.

Essay film became an identifiable form of film making in European Cinema in the 1950s and '60s and emerged as the leading non-fiction form for both intellectual and artistic innovation with Chris Marker's 'Lettre de Sibérié' (France, 1957) and 'Sans Soleil' (France, 1983) representing two prominent examples. The cinematic essay is an open and experimental film form, which is characterized by a collage of associative and subjective reflections on a set theme intertwining different streams of episodic narratives in a mixed genre of narrative, documentary and experimental filmmaking with a variable relationship between image, text, sound and music. It emphasizes theme over plot and the discovery of narrative through a flexible, reflexive and self-critical approach. Jakob Hessler states: 'Essays take into account the crisis of rationality in post-enlightenment modernity. Instead of using its object merely as an example for already established concepts, neatly separating form and content in a positivist manner, the essay configures its material in a non-hierarchical textual process.' (Hessler, 2009, 193) Likewise the genre of the travelogue suggests a close connection to episodic narrative. Jeffrey Ruoff writes in the introduction to 'Virtual Voyages: Cinema and Travel': 'Generally speaking the travelogue is an open form, an episodic narrative, essayistic, it often brings together scenes without regard for plot or narrative progression. Episodic narration offers an alternative to both the linear cause-and-effect structure of classical Hollywood cinema and the problem-solution approach of Griersonian documentary. The episodic narrative does not subordinate time and place to the regime of plot or story nor are its elements typically yoked to an argument.' (Jeffrey Ruoff, 2006, 11) Hence both cinematic essay and travelogue emerge at closer examination as very suitable non-hierarchical forms to be connected with nonlinear database narrative. The video installation 'Journeys in Travel' investigates the parameters of cinematic essay by re-interpreting them within the framework of a database film and reconstructs the historical genre of the travelogue and its episodic structure as a contemporary open-ended digital narrative.



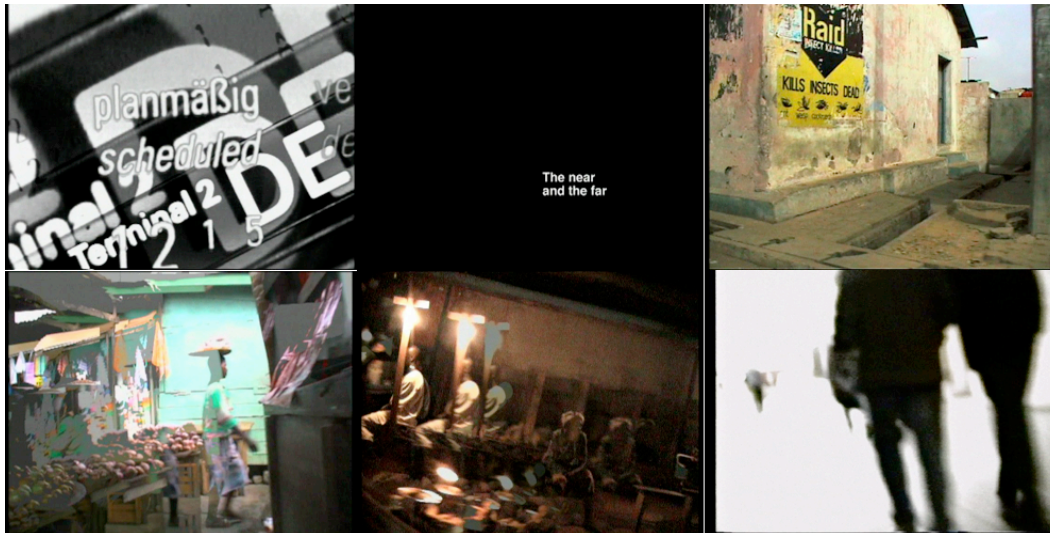


Figure 2 Use of experimental clips and intertittels in the database essay 'Journeys in Travel' © Christin Bolewski 2010

### 'Journeys in Travel': A Database Essay

Cinematic essay often includes a reflection on filmmaking and cinema, and 'Journeys in Travel' includes a reflection on the relationship of travel and film, the analogy to cinematic perception and the emergence of cinema itself. It stems from the position of experimental filmmaking where the explorative investigation of the medium film and its form is often part of the artistic investigation, but it does not neglect narrative film traditions. Unlike in Douglas' 'absurd theatre of film' there is an algorithm in place that controls a narrative flow, which offers logical permutations, because the final aim is to tell a (complex) story. However, due to the open narrative structure of cinematic essay there is no need for linear cause-and-effect driven sequences of actions and events, and the computer algorithm can provide more or less random connections between the narrative units. Instead, one of the major challenges of 'Journeys in Travel' is to set the computer algorithm and narrative flow in such a way as to create a stimulating intellectual and emotionally challenging experience for the viewer without causing confusion, boredom, or frustration. The algorithm shall keep a balance between well-directed narrative and randomness, and also adjust rhythm and pace to the condition of the human perception so that the timing of the narrative units and the frequency of alternations stimulate the attentive and emotional potential of the viewer. What makes a film finally successful in moving the spectator is film rhythm; how everything comes together and puts the viewer into a ride and flow through different emotional stages. Watching a film can be an absorbing and emotional experience, but how can this be achieved in nonlinear database film? Here 'Journeys in Travel' takes advantage of cinematic essays' experimental, episodic, mixed genre structure and the database includes video clips of different genre categories: documentary, experimental, narrative, music clips, etc., which all offer varying intellectual, visual and auditory stimulus for the viewer. The narrative units provide travel observations, which are collected recordings from the author's own travels over the last 10 years to various countries and locations worldwide including Europe, West Africa, Tibet, China, North America, Mexico, India, Australia, etc. These are accompanied by socio-philosophical reflections on related themes of travel and a multi voiced travel narration including references to texts by Marc Auge, Jean Baudrillard, Arthur Asa Berger, Alain de Botton, Ryszard Kapuściński, Cees Nooteboom, Claude Levy Strauss, etc. Within the computer programme all clips are assigned to five different narrative genre groups. They mirror the mixed genre approach of cinematic essay and are organized within the structure of 'PD' as five separate video and sound players, which alternate according to a preprogrammed script to generate a rhythmic flow of associative narrative chains. The five narrative groups offer:

- Player A: Philosophical and sociological reflections for the intellectual stimulation of the viewer. These clips are aligned by audio commentary providing a discursive argument.

- Player B: Intertitles, which interrupt the cinematic flow and provide additional text information and intellectual stimulation.
- Player C: Visual travel narrations and observations. These clips frequently use a camera in motion gliding through foreign landscapes and cities creating an effect similar to early 'phantom rides' and are often aligned by an anecdotic commentary and musical leitmotifs.
- Player D: Experimental clips with experimental treatment and manipulation of image and sound, which are often accompanied by musical leitmotifs. These clips provide a high visual and auditory stimulus for the viewer.
- Player E: Documentary observations with slow paced and static camera position, which provide the opportunity for the viewer to observe people, places and action more independently by avoiding additional commentary and interpretation.

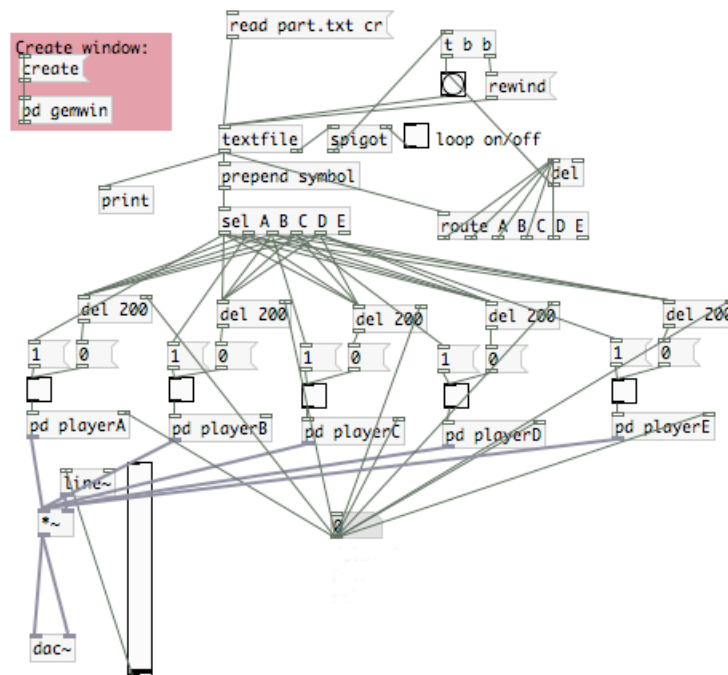


Figure 3 The PD/GEM control algorithm of the database essay 'Journeys in Travel' contains five video and sound player © Christin Bolewski 2010

This creative decision follows what Andreas Kratky, co author of 'Texas', describes in his method used to create a 'Soft Cinema' film project: "It is, consequently, only through the creative decision-making of the artist – regarding which clips to include in the database, which parameters to select, how to weigh them, and which rhythm to follow in the temporal development – that the film finally takes on aesthetic qualities." (Kratky, 2005, 32) Thus never telling a story from the beginning to the end, but by providing a 'kaleidoscopic' narrative flow 'Journeys in Travel' aims to capture the attention of the viewer, to keep them following the discursive argument and to provide alternately slower paced intervals for self-observation and reflection. As such it mirrors the 'rhetorical journey without exact route or final destination' of the cinematic essay described by Paul Arthur.

### Metadata and Computer Algorithm: Micro and Macro Structure

As in other database or interactive narratives, the contents in 'Journeys in Travel' are organized in smallest narrative units and dramaturgic elements, which do not presuppose a specific sequential order. This is an important prerequisite for the creation of a narrative flow that provides a variable yet reasonable reading of its content. Manovich has identified metadata as the key towards structure and control in database narratives. Metadata is invisible information (keywords, for example) that is attached to any data set. What he calls 'algorithmic editing', is an automated system for combining elements according to prescribed rules based on the

formal properties or content of video clips. In his installation 'Texas' (2004) each video clip in the database holds 10 parameters, including location, subject matter, average brightness, contrast, the type of space, the type of camera motion, and several more. "The software uses these parameters in selecting each clip, finding clips that are all similar in some fashion to the next. Film editing is thereby reinterpreted as the search through the database. Consequently, it is possible to describe a Soft Cinema film as a media object that exists "between narrative and a search engine." (Manovich and Kratky, 2005, 15)

The database of 'Journeys in Travel' currently holds app.180 separate video and sound clips and makes use of 'metadata' in a different fashion. It does not select clips that are similar to the previous; it rather selects clips of a different genre quality to create an alternating narrative stream with different perceptive und intellectual qualities. The Open Source software 'PD' is used to control this database and plays the video and sound fragments after a programmed script that includes predetermined genre decisions and random decisions of selecting a clip within a specific genre category.

'Pd' or 'Pure Data' is a visual programming language developed by Miller Puckette in the 1990s. It is a graphical environment for music and multimedia synthesis similar to Puckette's original 'Max' program, which he developed in the mid 1980s at IRCAM Paris. Though Puckette is the primary author of the software, PD is an open source project, has a large developer base working on new extensions to the program and can be downloaded free from the internet. With the addition of a graphics environment for mulitmedia, called 'GEM', it is possible to create and manipulate video, graphics and images in real-time with seemingly endless possibilities for interactivity with audio, external sensors, etc. The software is used in 'Journeys in Travel' to create a script, which plays simultaneously pre-edited video and sound sequences. The files are classified through different sets of metadata, which are encrypted within the titles of the video and sound files.

The video and sound sequences provide complex units of information, miniature narrative structures and subplots, for example, a documentary observation, an anecdotal travel report, a philosophical quote, or an experimental audiovisual stream. They are all self-contained units similar to a sequence or a chapter in a traditional (film) narration. Therefore each narrative unit within the database provides a kind of conclusion that can be read against the content of the following or previous units. Thus 'Journeys in Travel' suggests using 'micro' and 'macro' narrative structures. 'Micro structure' refers here to the structure of pre-edited narrative sequences, which offer different perceptive qualities, and 'macro structure' to the computer algorithm, which alternates these pre-edited clips into a stimulating audiovisual flow. Within the 'micro structure' of the separate units traditional methods of continuity editing are applied to create subplots, which can then be flexibly arranged in the 'macro structure' of the database essay. The computer algorithm controls pace and timing within the 'macro structure': For example, the viewer experiences first a sequence that contains a philosophical reflection on a specific aspect of travelling. Soon after the viewer will probably watch a sequence, which delivers a slow paced documentary observation of a landscape, which gives enough time to contemplate the given information of the first sequence and to branch out into own thoughts, while watching the low impact sequence of the landscape. Through this method, a cinematic flow is created that makes use of pacing and timing of traditional film montage, which is usually described as 'film rhythm'. Pacing and timing within the individual sequences is set through the prior editing process of the separate sequences and typical narrative devices such as the use of commentary voices and musical leitmotifs establish recurring subplots and themes. Leitmotif is a musical term referring to a recurring theme associated with a particular person, place, or idea. It is usually a short melody or even a simple rhythm and it can help in music, literature and cinema to bind a work together into a coherent whole. 'Journeys in Travel' currently has nine different leitmotifs attached to different narrative strands. The use of musical leitmotifs and experimental sound compositions does not only become a very important layer of structuring the ongoing narration, it also supports an additional emotional reading of the content and puts the viewer into a ride and flow through different emotional stages. Therefore it is an important instrument to create the film's overall rhythm and flow. The use of audio commentary and different narrator voices is another important instrument to structure the narrative. Currently there are a male and a female narrator who provide philosophical and

sociological comments and two original voices from West Africa who report on their country's history, culture and the slave trade.



Figure 4 One narrative strand that is accompanied by a musical leitmotif is a series of video clips, which provide various observations of tourists in performing worldwide the ritual of posing for their holiday snapshots. © Christin Bolewski 2010

## Conclusion

The video installation 'Journeys in Travel' is a practical case study, which tries to establish its own unique setting amongst the multiple approaches towards nonlinear narratives that occur in contemporary film, fine art and digital media. The development of non-linear narratives remains a traditionally intractable topic, because there is often a gap between artists' radicalizing innovation and audiences' quite different expectations. 'Journeys in Travel' does not investigate the narrative construction in such a radical way as some multimedia artists, who push its content to annulment, but tends more towards a conventional use of narrative storytelling. 'Journeys in Travel' prioritizes the viewers experience with a narrative flow, which tells a complex story yet aims not to cause frustration as can occur in some multimedia applications. Based on Manovich's suggestion to seek for structural relationships to the database aesthetics 'Journeys in Travel' suggests that the episodic structure of travelogue and cinematic essay is a suitable adoption for database aesthetics. The mixed genre elements of cinematic essay are allocated to five different genre categories, which alternate according to a programmed computer script. Each narrative element of the database provides a subplot with sufficient closure within its individual structure by applying traditional methods of continuity editing and typical narrative devices such as commentary voices and musical leitmotifs to establish reoccurring themes, so that the viewer is not left with a feeling of frustration when the episodic narrative moves on to the next element. Pacing and timing in film montage is commonly understood to be a complicated and more or less intuitively handled matter. As such, it is difficult to find a simple formula, which would suit every viewer's individual preference. Hence, the database narrative allows an exceptional opportunity to vary and test a film and its structure in different versions. In a later version, an interface will allow the viewer to alter the algorithm and to create their own film depending on individual preference for genre, pace and storytelling. For example, one could decide to choose only the player which contains documentary observations or travel narratives, and by doing so, shift the narrative construction towards a more traditional travelogue. As such, the video installation 'Journeys in Travel' is a work in progress and designed as a creative investigation into multiple modes of contemporary digital narrative constructions. The pre-edited sequences remain the same, but simply by changing the computer algorithm a different access to and alignment of the narrative elements and multiple image-text relationships can be achieved.



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