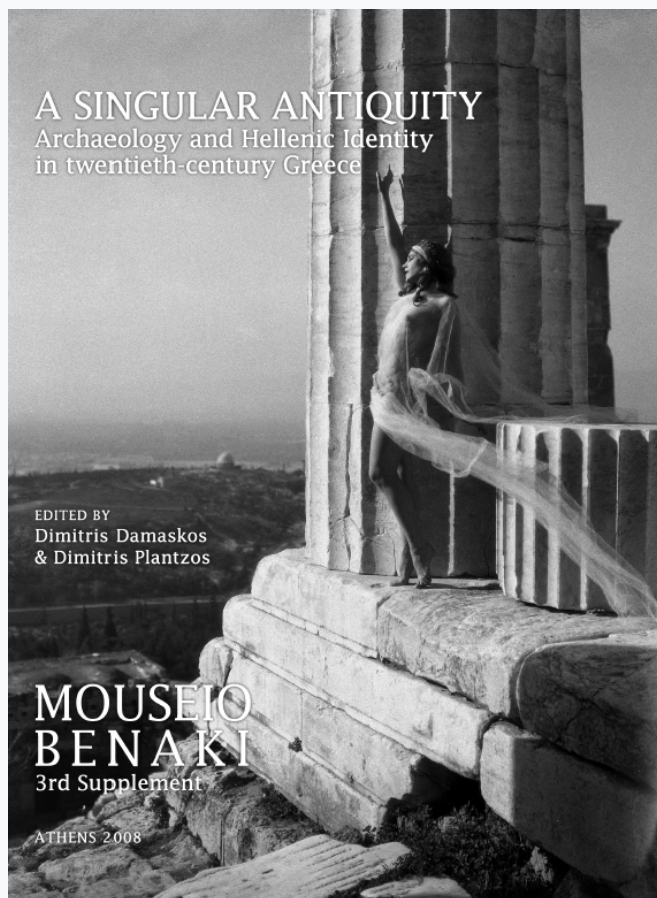


Μουσείο Μπενάκη

A Singular Antiquity: Archaeology and Hellenic Identity in Twentieth-Century Greece



The chronotopes of the Hellenic past: virtuality, edutainment, ideology

Delia Tzortzaki

doi: [10.12681/benaki.17983](https://doi.org/10.12681/benaki.17983)

Βιβλιογραφική αναφορά:

Tzortzaki, D. (2008). The chronotopes of the Hellenic past: virtuality, edutainment, ideology. *Μουσείο Μπενάκη*, 141–161. <https://doi.org/10.12681/benaki.17983>

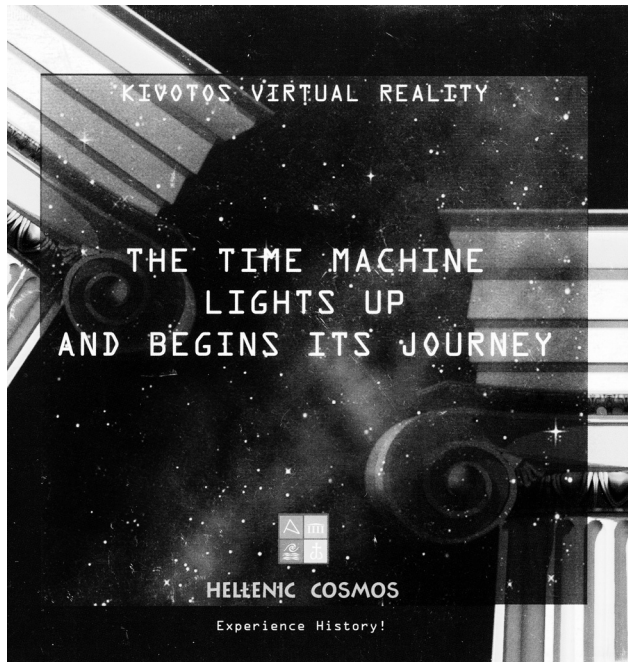
The chronotopes of the Hellenic past: virtuality, edutainment, ideology

SEVERAL ARTICLES IN THIS VOLUME address the issue of national identity vis-à-vis state policies (educational, cultural, religious, legal) in nineteenth- and twentieth-century Greece. The way that the state reshapes and negotiates the idea of the 'umbilical cord' linking past and present on the basis of ruins, movable antiquities and intangible signs is at the heart of much contemporary research. My contribution adopts a similar theoretical line but a rather divergent analytical and methodological perspective. By taking as point of departure *The Journey Through Ancient Miletus*, a virtual reality display of the ancient city of Miletus produced by and presented at the Foundation of the Hellenic World (FHW),¹ I look at the representational function of virtual heritage *content*. Virtual heritage, broadly defined as the computerized reconstruction of historic monuments and sites, has been the subject of prior enquiry, where I mainly focused on issues of form and pedagogic identity.² The present article rounds up the discussion by turning to the way that the Hellenic past is discussed during the ten-minute virtual tour to the ancient city.

Miletus, metonymically relating to the geopolitically significant area of Asia Minor, now lies in ruins on the western Mediterranean coast of Turkey, close to the Greek island of Samos and the Turkish village of Balat.³ Part of its Roman phase dating to the first century AD was digitally reconstructed in the late nineties by the 3D Graphics and Animation Sector and the Virtual Reality Sector of the FHW. In 1999 the reconstruction was presented on a CAVE platform staged at the FHW's premises.⁴ Soon, the FHW established itself as the *sole* cultural heritage centre

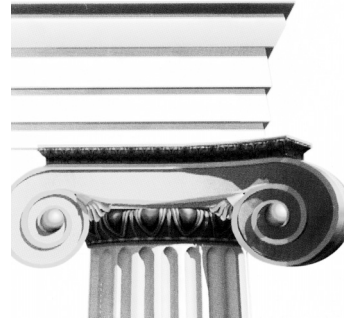
worldwide to produce and show virtual heritage applications on cutting-edge media platforms. As stated in the brochure, virtual visits to the historic past constitute a fundamental educational activity and a clearly defined goal. The visits adopt the formula of the guided tour and the CAVE performs both as *Time-Machine* and *Kivotos* (Noah's Ark), given that it 'preserves' the Hellenic heritage for future generations. In this respect, the reconstructed city of Miletus (henceforth Digital Miletus) is of historic interest, as it is the *archetypal* example of virtual heritage meeting virtual reality.

In terms of form, Digital Miletus has a *multimodal* structure: it draws upon imagery (the visual), oral text (the verbal) and kinaesthesia (movement in space).⁵ Image-themes are 'sewn' together to produce a seamless,⁶ transparent image of the ancient city on the basis of factual information: the Sacred Gate leading to the sanctuary of Apollo at Didyma, the Agora, the Gymnasium, the Council House, the Ionic Stoa, the temple of Apollo Delphinus, residential quarters and one of the ancient city's harbours. The Miletus experience is structured around a series of virtual actions: flying, landing, flying again to visit the various sites, diving into the sea, visiting a ship on the back of sea animals. These actions are verbally communicated by the museum educator (henceforth the guide). The guide acts as the mediator between the image and the audience and controls all necessary equipment, i.e. a head-mounted device that sends position and orientation signals to the computer and a special mouse for 3D environments that enables interaction with the image. Thus the guide supplements the visual with verbal infor-



FROM SCIENCE FICTION...
TO SCIENTIFIC REALITY

Virtual Reality, which started life as the vision of an inspired few, is today a technological reality. By Virtual Reality we mean an imaginary, computer-generated environment, which the visitor experiences in 3D space, and has the sensation of being totally immersed within it. Virtual Reality is accessible in all dimensions, with the help of special glasses or optical headpieces. It can be presented either on a series of screens specially set up for the purpose, or even on an ordinary computer screen. Virtual Reality enables us to travel both to imaginary and abstract places that no longer exist.

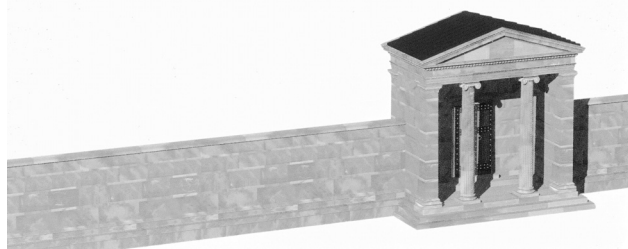


KIVOTOS
A STATE-OF-THE-ART
JOURNEY BACK
INTO HISTORY

The KIVOTOS environment is Virtual Reality at its most exciting. Based on CAVE technology, the KIVOTOS system is a unique event worldwide. The name 'KIVOTOS' (Ancient Greek for 'wooden chest') is a reference to Noah's Ark and to the flood in the Deucalian myth.

FIRST STOP -
ANCIENT MILETUS!

If you are attracted by the idea of walking around an ancient city as it is today at the height of its fame, visit the Kivotos and ask to disembark at ancient Miletus! This city was selected as 'first stop' because of its celebrated history, its town plan (the Hippodamian System), and its contribution to philosophy (Thales, Anaximander, Anaximenes et al.). Sadly what remains of it today does not do justice to the grandeur of this former 'Metropolis of Ionia'. But, thanks to the prizewinning 3D representations of the buildings of ancient Miletus which the FHW has incorporated into the Kivotos, you can experience this magnificent city exactly as it was 2800 years ago: the temple of Apollo Delphinios, the Council House, the Hellenistic Gymnasium, the Ionic Stoa and the North Agora. And there is a whole host of other surprises in store for you!



THE HELLENIC COSMOS
CULTURAL CENTRE

The Kivotos is just one of the many activities available at Hellenic Cosmos, the cultural centre established by the Foundation of the Hellenic World. The Centre aims to present the broader geographical evolution of the Hellenic World in terms of its history, life and values. In line with contemporary museum theory, we make maximum use of developments in computer technology, audiovisual media and interactive exhibits to bring the past to life in a vivid and relevant way. The impetus behind all the Centre's projects and exhibitions, both permanent and temporary, is to throw the complex identity of the Hellenic World into relief by illuminating the conditions which have shaped it down through the ages.

READY TO BOARD...
EXPERIENCE HISTORY!

Exciting hi-tech game, or immersion in history? However you look at it, the Virtual Reality Kivotos is an exhilarating, new and truly unforgettable experience!

Daily 'departures'
at 254 Pireos Street.
The 'time machine'
is waiting for you,
all lit up and ready to take off!

So, be free
from content
to escape!



HELLENIC COSMOS
Experience History!

Figs 1-4. Brochure advertising the CAVE at the FHW © 2002.

mation, regulates who is talking to whom and how and offers ideology-laden comments related to the representation. *Flying-above* segues into *walking through* the image. There are no people or any other sign of life apart from a giant turtle and a dolphin swimming under the water surface. No story unfolds during the 10 minutes of the tour.

A ship, a *bireme*, is rocking on the digital waves. Computer-processed sound effects, such as the cries of seagulls, turmoil from inside the Council House and music-clips, enhance the dramatic effect of immersion and 'presence'.

So, form clarifies the way that the medium organizes the diverse modalities – the *how* of things. Conversely,

content, which is the focus of this article, is about the *what* of things – what is said and what is shown. Form and content cannot be understood as separate bodies, since the choice of a particular medium facilitates the formation of particular contents.

My point is that virtual reality, and its potentiality for interaction and participation, is used yet again to show history as the terrain of authentic facts, of what lay ‘out there’ some two thousand years ago. While diverse media (print, photography, video, computer) have played with the idea of naturalism in order to create truthful copies, such a multimodal environment enhances the fidelity of the reconstruction by providing the sense of physical presence. This is the reason why Digital Miletus, notwithstanding a series of technical drawbacks impeding the production of similar applications, has become a most popular heritage simulation.⁷ However, as research has taken pains to show and my title suggests, the past is always recounted according to systems of ideas in the present. In other words, the past is not a passive mass of facts waiting to be revealed; those facts are received and interpreted on the basis of valid discourses in the present. Virtuality, or the use of electronic media, is one such discourse that marks production within the fields of communication and education in late modernity. Bolter and Grusin have argued that the main formal properties of virtual reality, namely immediacy and transparency, are cultural properties.⁸ Immediacy and transparency refer to the feeling that, what we see is *unmediated* because of the seamless image presented before us and the illusion created by the kinaesthetic sense during navigation. Those properties are inherited from two diverse sources traditionally at loggerheads: on the one hand, the Renaissance paradigm of linear perspective and the *window-to-the-world* legacy (the Cartesian man-world duality), and on the other hand, phenomenology, which, in this case, understands the bond between man and the world on the basis of the senses as the very source of cognition.⁹ By drawing on the age-old tradition of illusory spectacle, Euclidean geometry and first person point-of-view camera perspective, virtual reality thus reformats respective epistemologies of simulated realism. This should not lead to essentialist assumptions that virtual reality is a step forward in the direction of verity. It is a technology that lays claim to truth vis-à-vis the real, such as for example that it can construct the ultimate copy out of what once existed; it constitutes a powerful set of arguments emanating from computer science and learning

theories, which characterize today’s educational reforms. At the moment that virtual reality plays upon heritage, it transforms the way that heritage is mediated, appreciated and contested. How, then, are we to understand such transformations? How does the CAVE as a cutting-edge media platform and the particular conditions of mediation that it shapes affect content? What kind of history is suggested and how do discourses on Hellenism unravel? What are the constituents of the pedagogic experience? These are the main questions that the article addresses.

The article is divided into three sections, which substantiate the concepts of virtuality, edutainment and ideology. Firstly, I contextualize Digital Miletus by briefly touching upon the so-called *heritage debate*, and position the CAVE within existing museum communication methods (time-travel and the idea of the past ‘revisited’). Secondly, I focus upon time-travel and use the analytical categories of *chronotopicity* and *intertextuality* to examine the guide’s talk, which is the primary source of information about the projected images. I argue that time-travel is not a random choice but serves both dominant and emergent epistemological paradigms in the fields of history and pedagogy. Finally, I delve into the ideological function of language by dividing the talk into three chronotopes, that of the historic past, the CAVE experience and ‘our’ world, on the basis of the earlier analysis. In so doing, I demonstrate the operation of ethnocentrism in each chronotope. Conclusions are drawn regarding popular forms of history, especially in the framework of Greek formal education and informal learning.

Digital Miletus in context

Digital Miletus is a Greek example and bears the particularities of its distinct horizon of production. Yet, global transformations in terms of heritage preservation and popular forms of history, leisure time management, and market exigencies can be traced in its rhetoric. I, therefore, choose to put Digital Miletus in context before moving into content analysis.

The heritage debate

Virtual heritage builds upon and amplifies the established term ‘heritage’.¹⁰ However, this raises some fundamental questions: What is heritage? Is it history? And if yes, what

kind of history? History as reconstructed architecture, materialities and people back in time? History as the spectacular? History filtered through present, often conflicting, interests and epistemologies?

There are basically two main lines in American and British literature on the subject. While they both emphasize the importance of the *present* in shaping the past, they are in principle opposed.

The one position – widespread in both the US and Britain – argues that heritage is a validation of the life of the ordinary man, who in this way, becomes empowered and actively seeks answers to political and moral questions concerning the significance of the past in the present.¹¹ Hence history is understood as personalized and collective memory, in other words, how people remember and acknowledge time past, even remote time past, and not so much in terms of official guidelines and expertise. While popularized history is often the motivation behind many contemporary museums and exhibitions, its radical rhetoric can be traced in historic theme parks of the kind that corporations such as Disney are now attempting to establish, films and computer games, and it is evoked in cultural tourism, annual heritage festivals and historic reenactments, simulations and role-playing. This position, then, generally favours the ‘feverish’ preoccupation with heritage. The other position argues that heritage contradicts and annihilates history. While history is the product of self-reflexivity, doubt and rupture, heritage is the product of empathy, lack of self-reflexivity and poorly documented continuity. History is science, heritage is myth.¹² This position, then, condemns heritage as a kind of opium which undermines critical thinking.

To endorse a position and claim that heritage is good or bad is in itself unproductive. Rather than favouring positions, I look at evolving forms of communication. In the case of Digital Miletus, it is important to see how Greece, still anchored to a rigid national curriculum, the official guidelines issued by the Pedagogical Institute and a single textbook for teaching history in class, adapts to the increasing demand for digitized content and more relaxed forms of historic knowledge. While this is an area of interest yet to concern the Greek research establishment and well beyond the scope of this article, Digital Miletus remains a point of reference, as it encapsulates the international and the local in an almost grotesque manner. Hence, it is worth studying.

This time-machine travels backwards

Somewhere along the line of its legacy from modernity, from Jules Verne to H.G. Wells to Ray Bradbury, the CAVE is a magic device. It plays upon the enduring human fantasy of obliterating the borders of the natural, the contrived, the impossible. From another perspective, museums have always lingered between an early modern ‘magical’ conception of the world and a subsequent disciplinary, rational view, which we are, more or less, all familiar with. Even though the enchanted *cabinets of curiosities* of the early modernity with crocodiles hanging from the roof and deformed foetuses in jars eventually gave way to neat Victorian showcases, museums remained places of magic because they store and display the authentic. In the absence or the ‘decline’ of originals, which nowadays is not a rare phenomenon, a fairly new kind of enchantment runs in parallel: *machines of illusion*. Kinetic and optical devices, reaching their climax in the amusement parks of the late nineteenth century, encouraged museums to flirt with what MacCannell terms ‘staged authenticity’.¹³ In order to enhance the real, museums create perfectly *inauthentic* and illusory but persuasive experiences. In the nineteenth century, however, knowledge about the world was already classified into academic disciplines. Amusement-park culture and the fascination with the Great Exhibitions were eventually restyled to serve the needs of an otherwise *positivist* form of pedagogy. Illusionism was appropriated to accommodate evolutionary science and historic narratives.

By drawing on H.G. Wells’ philosophical fantasy¹⁴ and ‘Disney-frenzy’, museums suggest the blurring of boundaries between disciplinary knowledge and the theme-park delight: ‘In H.G. Wells’ time,’ writes Spencer, ‘the Victorians called exhibition visits “edification” or “improvement”’. Today, we call heritage and educational content in our leisure activities “edutainment” or “infotainment”’. In the 1990s, as in the 1890s, this is big business.¹⁵ Business has proved to couple nicely with knowledge production practices and the so-called new media.

So, the CAVE is an illusion machine. In the case of Digital Miletus – and of any other tour to the past, for that matter – it turns into a computer-based time-machine *travelling backwards* (figs 1-2). Travelling to the past certainly did not begin with the recent generations of digital technology and virtual reality. The claim that we carry on remaking the same tools (and I would add, concepts) by using more refined and challenging technologies is ap-

plicable in this case.¹⁶ The historic ride back in time is, according to Samuel, a most appealing – and thus (now) dominant – way of reviving the past and has its roots in the 1951 Festival of Britain. It soon established itself as a museum display technique, which museums, particularly in the Anglo-Saxon world, have largely endorsed since the eighties with the Jorvik Viking Centre being the most discussed example. At Jorvik, in the medieval city of York in England, time-travelling is promoted as the unforgettable experience of the ‘past revisited’.¹⁷ In the eighties, retrospection was already the trademark of English conservative education.¹⁸ A constitutive trait of modernity, retrospection insists on fusing together *nation-state* ideology – the very *raison d’être* of the modern museum – and *heritage preservation*. Not only through object-based exhibits but also, and most importantly, through the trend of experiential learning, exploration, discovery, games and role-play,¹⁹ museum pedagogy has taken an interest in the growing heritage debate. Alongside, *supranational* cultural heritage policy is evidently renegotiating national identities and values. Current EU directives on heritage propagate a shared European tangible and intangible ‘past’ and billions of euros allocated for the creation of digital content substantiate this prospect.²⁰

Social, cultural and political transformation, then, marks museum pedagogy, both in an explicit, articulate way and in latent, implicit argumentation. Time-machines, this abiding metaphor of the human quest for *chrono-topic* or time-space otherness, establish themselves in current museography as the sign of a ‘captured past’ construed on the basis of clear-cut timelines. Digital journeys offer a new coupling of science and spectacle, objects and feelings, by restructuring forms of identity, belonging, collectivity and participation. Hence, Digital Miletus and its vehicle, *Kivotos*, is an obvious site for the study of the complexity of edutainment politics.

Structuring content: time-travel

Ready to board...

Experience history! (fig. 4)

Time-travel as a historic device

Evidently it is historiography itself that has laid the foundations for the use of timelines in museum communica-

tion. The ancient historiographic paradigm of narrative history became obsolete in medieval times and was reinstated as dominant in the nineteenth century to validate the claims of newly founded nation-states upon the past.²¹ It is narrative, which expresses ideas of continuity and puts the narrator into the position of the interpreter. White argues that every historic representation expresses the ‘desire for the real’. Real in this sense refers to things that are remembered and which have their place in a chronological sequence. The human interest, then, to create timelines as stories becomes, in all forms of historiography, i.e. the *annal*, the *chronicle* and *history proper*, a connection between the ‘true’ and the ‘real’; a connection between what happened and the truthfulness of remembrance. While all forms of historiography suggest a kind of timeline, it is only history proper that endows the sequence of events with: a) a beginning, a middle and an end (closure instead of mere termination); b) an inner structure of relationships giving to the events a place in a whole (plot); and most importantly c) a point of reference which orders the events according to a *moralizing principle* (for instance the rule of God or the state). This last point is of particular importance: when narrativized, both fictional and historic events constitute an allegory, which needs a moral order to sustain its message. It is moral order which structures the events, and defines what is significant, hence included, and what is insignificant, hence excluded, a fact apparently absent from both the non-narrative form of the annal and the half narrative form of the chronicle. According to White, the existence of a moralizing principle is the quintessence of narrativity: ‘[...] narrativity, certainly in factual storytelling and probably in fictional storytelling as well, is intimately related to, if not a function of, the impulse to moralize reality, that is, to identify it with the social system that is the source of any morality that we can imagine’.²²

In historic events moral order defines social relationships by referring to some kind of social centre. This calls upon a sense of authority, which *legitimizes facts* according to prevailing historiographies.²³

We come across, then, the ideological operation of narrativity vis-à-vis historiography. Time-travel is an allegory of the past revisited, an allegory made possible by virtue of its cultural significance in novels. Herein lies the paradox: while time-travel is a formula of early science fiction, in the case of history it orders *real*, not fictional, events. This

is, however, not really a paradox. 'Stories' about history come into being exactly because modern historiography constructs a timeline, which is retraceable. Timelines in historiography have an immanent structure (the events themselves have an integral meaning pertaining to the moral order of the state) and attain closure (the foundation of the nation-state, which becomes the implied centre of the 'story'). This is the model of historiography that Ranke established in nineteenth-century Prussia, a model which came to be the mark of *history proper* (historicism or history as a scientific enterprise).²⁴ While it drew upon the ancient Greek tradition of narrative history it used narrative to make political events and state documents *speak themselves* without the intervention of the analyst's intuition or imagination.²⁵ It had the bureaucratic Protestant Prussian state as its moralizing centre and strove to maintain it. This is again what Barthes takes issue with in discussing the *discourse of history* within nineteenth-century bourgeois realism. Historic presentations, when narrativized without an obvious narrator, become closed, finite, truthful structures, which the subjects of the newly founded national states are set against and moulded within. The emphasis on neutral description turns history into an objective recount. It is exactly the operation of the objects speaking themselves that we often see in historic exhibitions and reconstructions.²⁶

In Digital Miletus, time-travel is a complex operation extending beyond the legitimization of historicist claims. By adopting the introductory remark of the guide ('You are tourists in time now and in ancient Miletus') as a major structuring principle, time-travel counterpoints positivism and phenomenology, as it places emphasis on reconstructed objectivities while evoking physical and emotional states. This particular hybrid and tension-provoking construction, which oscillates between the objective and the empathic, is, I believe, at the core of contemporary edutainment genres, and to a certain extent concerns much of currently produced museum representations.²⁷

In the light of the above, how can we fathom and analyze Digital Miletus as a complex representation system? What are its main operations and how do those operations affect the production of meaning? Chronotopicity and intertextuality, two core concepts in post-structural semiotics emerging from literary criticism, can prove helpful in understanding how meaning is constitutive of social practice.

Chronotopicity: the horizon of the communicative event
 Meaning production or meaning making, something right at the heart of post-positivist social theory,²⁸ refers to the fact that meaning (i.e. mental dispositions) is embedded in sign systems in which some signs are prioritized as important, and natural, and others are not. These sign systems, such as museum representations, are considered processes by the analyst, which a culture, at a specific time and place, invests with value activities and relationships of power that *lie outside the semiotic system under analysis*. Digital Miletus, this mediated experience, 'internalizes' discourses from the outside (history, archaeology, art, heritage preservation, technology and science, progressive education and experiential learning, and so on) and reorganizes them in order to argue about politics, knowledge and learning.

Such an operation presupposes a move from the general historic horizon of the present towards the particular horizon of the communicative event from which we can approach, grasp and analyze the event. This move points to the *localization* of the historic present. It is a move ascribing the communicative event its singular features: it gives concrete shape to scientific views, opinions, values and emotions that emanate from and involve specific subject positions, such as, for instance, that of the expert, the benefactor, the school group, the adult visitor. From an analytical perspective, then, the horizon from which the communicative event becomes graspable and contextualized within a particular present, is the *chronotope*.²⁹ The chronotope is in fact the conceptualisation of the inseparability of space and time and the realization that everything experienced, whether fact or fiction, has a spatial-temporal structure. In his seminal essay on *chronotopicity* detected in literary genres from the so-called Greek Romance to Rabelais, Bakhtin argues:

'We cannot help but be strongly impressed by the representational importance of the chronotope. Time becomes, in effect, palpable and visible; the chronotope makes narrative events concrete, makes them take on flesh, causes blood to flow in their veins. An event can be communicated, it becomes information, one can give precise data on the place and time of its occurrence. But the event does not become a figure (*obraz*). It is precisely the chronotope that provides the ground essential for the showing-forth, the representability of events. And this is so thanks precisely to the special increase in density and concreteness

of time markers – the time of human life, of historic time – that occurs within well-delineated spatial areas [...] Thus the chronotope, functioning as the primary means for materializing time in space, emerges as a centre for concretizing representation, as a force giving body to the entire novel.³⁰

But Digital Miletus is not a novel, we might protest. It does not contain any events, or plot for that matter. Yet, this is not true. Digital Miletus might not contain specific events making up a story or simply pertaining to historic time, i.e. there is no re-enactment of a battle, or actual journey. It nonetheless presents a *segment* of Hellenic history substantiated on the basis of the virtual journey. As mentioned before, the journey includes a series of virtual actions marking its beginning and end. Participants become travellers and this process, enabled through the agency of the guide, renders their tour in time a *narrative*. The narrative of the tour has the present as its point of departure and unfolds on the basis of distinct physical spaces and socio-historic times that manifest themselves in both the visual and the verbal modality:

Physical spaces:

- a. Ancient Miletus,
- b. The CAVE at the FWH,
- c. Contemporary Greece as the geographical space of the persons involved.

Socio-historic times:

- a. Time-past (first century AD) – the time evoked by the reconstruction,
- b. Time of the museum experience (April 2000),
- c. A broader time zone, though one synchronic to the time of the museum experience: the time-present of the guide, the producers and the participants.

If time-travel, then, is the major chronotopic formation in Digital Miletus encompassing the above, we can discern three distinct space-time zones intersecting with one another:

- *The chronotope of the historic past* (the city, which virtual heritage refers to)
- *The chronotope of the CAVE experience* (the didactic experience, which virtual reality creates)

- *The chronotope of 'our world'* (meta-comments on virtual reality, heritage, history and didactics)

So, the chronotopes are conceptual devices manifesting themselves in language and making the visual modality *mean* in a particular way. We are not left on our own to make whatever we want out of the three-dimensional image but we are guided into specific aspects of the visual and have visceral, vertiginous reactions to corroborate the illusion. Through the guide's talk we are continuously transported from one space to another and from one time slot to another, a process, which not only refers to physical space and historic time, but, at the same time, *constructs* them. Space and time, in the sense used in the chronotopes, is not 'somewhere out there' ready to be narrated and described, but as part of cultural production, space and time become properties of semiosis that selects *which* spaces and times are to be marked out, how they are going to relate to history, technology and learning and to each other, and how they are going to relate to and thus, constitute, the reality of the participants. The verbal modality lets the guide unfold her/his agenda about knowledge and her/his role as educator and the participants perform as subjects, not only of, but most importantly, *in* history.

This is how the horizon of the event can be concretized. Still, we need to understand the exact operation of each chronotope and the way that heritage acquires the status of historic knowledge. At this point *intertextuality* comes to the rescue.

Intertextuality: activities, processes, text-types

Intertextuality, a term borrowed from Kristeva and elaborated by linguists and critical discourse analysts, refers to the capacity of language to embed ideology.³¹ This means that the production and mediation of meaning, whether verbal or otherwise, is not a neutral operation; it is ideology-laden in the sense of the belief systems, axiological assessments and points of view that it implies. As the theory goes, social processes are deflected in language in the form of discourses (the discourse of national identity, the discourse of authenticity in late modernity and so on), and by the same token, language systematizes and constitutes social reality.³² So, language and other forms of representation should not be examined in isolation from critical social research.

Specifically, intertextuality clarifies how any given text

or communicative event incorporates discourses from outside the text or the event and then localizes and communicates them via the *multifunctionality of language*: ‘Every sentence in a text is multifunctional: but not in such a way that you can point to one particular constituent or segment and say that this segment has just this function. The meanings are woven together in a very dense fabric in such a way that, to understand them, we do not look separately at its different parts: rather, we look at the whole thing simultaneously from a number of different angles, each perspective contributing towards the total interpretation.’³³

This point reveals the underlying principle in the guide’s talk. The talk bears more than one function. It presents history as subject matter, structures the presentation through the scheme of time-travel, and controls topic and social relations. In this way, language becomes Bakhtin’s ‘verbal-ideological thing’.³⁴ To apply an intertextual analysis to the guide’s talk entails classifying the operation of language into *activities*, *textual processes* and *text-types*, all of which make up the talk.

By pressing the navigation button the guide verbally enacts a series of *activities*. These are *actional* (modes of doing something), *perceptive/cognitive* (modes of perceiving or thinking about something) and *existential* (modes of being in a certain state). The activities instigated by the guide appear in speech in the form of *textual processes*. There are *material* processes alluding to action (*we are flying*), *mental* processes linking perception with cognition (*take a look*) and *relational* processes linking the objects with the perceivers (*this you see in front of you*). Given that physical movement is not encouraged in Digital Miletus, speech orders and regulates the experience of viewing and moving by turning the CAVE into an audiovisual vehicle.

More importantly, not only are sentences multifunctional but also verbs can deliver multiple tasks. The verb *to fly* for instance supports the unfolding of the guided tour, thus contains narrative elements vis-à-vis time-travel, and at the same time presents the view that flying above is an all-encompassing mode of apprehending the world. This second function of the verb is not narrative any more but expository, that is, it contains a value judgement about the capacity of the medium to offer viewing angles that are ‘unusual’, ‘more effective’ than the traditional and thus more appropriate for knowledge communication.

Finally flying serves the purpose of describing what we see. So there are three *text types* alluded to in one and the same verb, namely *narrative*, *description* and *exposition*.³⁵ Actional verbs relating to material processes can also be used to narrate, describe and expose views (as with *flying*), perceptive-cognitive verbs relating to mental processes can be used to describe and expose (as with *looking at*, when, for example, admiring the floor of the Delphinion), existential verbs relating to relational processes can be used to narrate, describe and expose (as with *landing on the Sacred Way and gaining an all-encompassing view of the city*).

THE INTERTEXTUAL STRUCTURE OF DIGITAL MILETUS

Types of activities

Action (to fly) Perception/cognition (to look) State of existence (to be)

Processes reflecting the activities via textual features

Material Mental Relational

Text-types

Narrative Description Exposition

TIME-TRAVEL

Chronotope of Chronotope of Chronotope of

The historic past The CAVE experience ‘Our world’

To link chronotopicity with intertextuality and round up this section, each *chronotope* presents a mixture of elements of all three text-types but *one particular text-type* is always in control of speech. By analyzing the chronotopic zones, which cut through the talk, we understand whether it is narrative, description or exposition that controls speech in each chronotope. This is important in two

ways. First, we see that the interchange among narrative, description and exposition is not only a matter of form and style but also *presents strong epistemological views*. What does it mean to say that history operates according to narrative formulas? Which paradigm does the presentation adopt? What does it mean to have description prevailing? Do narrative and description serve the purpose of education in a neutral, totally disinterested way? Do they have a rhetorical capacity, namely to propagate history as edutainment where a balance is struck between mimetic realism and participatory, empathic engagement imprinted on the body? Second, the analysis of the chronotopes shows that narrative and description are subservient to exposition, the third text-type. Exposition *is the overriding text-type in pedagogic applications*, which leaves space for argumentation and the play of ideology.

The final section attempts to illustrate how ideology can be introduced into knowledge production and its moulding within pedagogic discourse.³⁶

Implementing chronotopicity

Ideological and pedagogic functions of the chronotopes
So far, we have discussed the way that speech gives access to the visual modality. Hellenism appears both as a tableau of images ready to be reconstructed on the basis of factual evidence and a journey linking past and present. But to understand the specific workings of each one of the chronotopes we need a theory of ideology. There are two levels of enquiry:

First, the analysis adopts the thesis that *modern ideology* (including nationalist ideology) has *three basic functions*: a) to describe, explain, map reality as it is; b) to take this reality as an evaluative measure in order to incite and motivate towards a 'should-be' reality; c) to unite and advise about social roles and appropriate social action so that this should-be reality can be attained.³⁷ I will summarise these three functions into *descriptive*, *normative* and *consensus-making* respectively. The talk builds upon and transforms the above mentioned ideological functions as follows:

- The *chronotope of the historic past* has a *descriptive* ideological function in the sense of showing Miletus 'as it was' in ancient times. To describe an ancient city as 'accurately' as possible serves the first purpose of ideology by *conflating* the then with the now. For nationalist ideology,

especially that of cultural nationalism,³⁸ the past informs and inspires present and future. In other words, today's reality is inherently related to that of the past.

- The *chronotope of the CAVE* experience has a *normative* ideological function, that is to motivate towards a prescribed better future, or the 'should-be' reality mentioned above. Since time-travel serves the ideology of historic narrativity, in the sense that it unites past, present and future in an unbroken timeline and makes present and future the outcome of the past, the unfolding of the virtual time-travel has a similar normative function. It presents the axis of continuity upon which we are moving during the journey as the *appropriate* way to reach history. Time-machines and the like corroborate such ideological claims by reinvigorating the historicist position, which purports that the past can be objectively recaptured.

- Finally, *the chronotope of 'our world'* has from an ideological perspective a *consensus-making* function, as it focuses on social roles and action through participatory media and informal learning. In Digital Miletus this chronotope unites and motivates the participants towards discovering and exploring less rigid and official ways to apprehend the (their) past, and thus, so to speak, engage actively in issues of social validity.

Second, the analysis shows that these ideological functions are sustained by and filtered through the *pedagogic function* of the guide's talk. The talk partly adapts to museum informal learning, where participation and discovery are expected on the part of the audience, partly sticks to traditional modes of mediating information (a closed question-answer scheme):

- The *chronotope of the historic past* has a *propositional* pedagogic function, namely to instruct through promoting the curriculum and presenting the subject matter of history as a cluster of buildings and singled-out items. This function broadly draws upon positivist accounts of representational realism.

- The *chronotope of the CAVE experience* has an experiential pedagogic function, namely to instruct through letting us delve into sensation-based history, and having a 'corporeal' contact with the past. This function draws upon phenomenological accounts reshaped in spectacle and immersive virtual reality.

- The *chronotope of 'our world'* has a *localized* pedagogic function, which a) instructs, in the sense of systematizing virtual heritage communication through meta-

comments about history, virtual reality and learning, and b) regulates the identities of guide and participants (who they are and what kind of roles they take during the tour). This chronotope turns the communicative event into a teaching device by anchoring abstract ideological and epistemological views upon specific processes of didactics (for example the classroom talk model which the guide adopts).

So ideology and pedagogy in Digital Miletus articulate as follows:

Chronotope	Ideological function	Pedagogic function
Of the <i>historic past</i>	<i>Descriptive</i>	<i>Propositional (curriculum knowledge)</i>
Of the <i>CAVE experience</i>	<i>Normative</i>	<i>Experiential</i>
Of ' <i>our world</i> '	<i>Consensus-making</i>	<i>Localised</i>

In this sense, the chronotope constitutes *both* the logic of mediation *and* a tool for the analyst to penetrate the complex operation of mediation. Next, I show how to use the chronotope as a tool by laying out the principles of each chronotope on the basis of the analytical and methodological scheme discussed so far.

The chronotope of the historic past

'Events are dust not only because they are ephemeral but also because they are dust in our eyes. But the motionless ideal city is similarly an illusion that can blind us'.³⁹

Guide: [cce] *You can see* [cce] [chp] *these houses* [cce] *down below* [cce], [chp] *the houses of the Miletians* [chp]⁴⁰

In this chronotope Miletus is described. What description does is to set before us a reality that we can *identify with*. It is a reality that sustains nation-centred ideology, an ideology which does not pay tribute particularly to the Left or the Right, to progressive or traditional history teaching, to conservative or innovative museum style but is immanent in the constitution of the nation. Mapping reality 'as it is', or the ancient reality of Miletus as it 'was', presents the nation as a metaphysical rather than a historic entity. It presents it as a spiritual being unchanged and

continuous with the present. This is a nineteenth-century Romantic conception of belonging, which recent literature on nation formation critically reviews.⁴¹

Description is a more static and synchronic approach to history, which complements and defines the purpose of narrative. As with travel guides, its argumentative power lies in the fact that description 'dresses up' time-travel with concrete information about the visual: e.g. information about public buildings and, only suggestively, about the life of people once populating those buildings. In contrast with the encyclopaedia, conventional travel guides are there to say to visitors what they should see and persuade them to take a certain route on the basis of evaluative principles, such as the selection of words, contents, and stereotypical sub-themes.⁴² But to take a certain route is one thing. To conceive this route and the particular manner of approach as a better way to satisfy the 'desire for the real', is another, more subtle form of persuasion. To be more specific, we can detect three relevant strands in the guide's talk:

- Presentation of *reconstructed materialities* (single items, mostly buildings),

- Presentation of *narrative elements*, which contextualize the visual by giving glimpses of Miletus' life 'back then'. Those elements are about *everyday life* and *public practice*,

- *Expository elements*, which deploy evaluative, emotion-laden wording in order to emphasize the manner in which settings and everyday life are described and narrated. In this way, Digital Miletus becomes ideologically robust.

First, reconstructed materialities suggest that history is about buildings and objects, landscape and seascape. The focus on materialities and their preservation is what heritage, at least tangible heritage, is most concerned with. Urry elaborates on this point by suggesting the term 'artefactual history':

'Heritage history is distorted because of the predominant emphasis on *visualisation*, on presenting visitors with an array of artefacts, including buildings (either 'real' or 'manufactured'), and then trying to visualise the patterns of life that would have emerged around them. This is an essentially *artefactual history*, in which a whole variety of social experiences are necessarily ignored or trivialised'.⁴³

Description makes tourists identify a facet of the present-day thing (the reconstructed buildings of ancient Miletus,

in this case) as the thing itself (the referent ancient Miletus), so that the representation make claim to objectivity, transparency and historic truth.

Guide: [chp] *In the Agora* [chp], [cow] *children* [cow], [chp] *here in this large space, in this atrium*[chp], [cow] *we call this court an atrium, right* [cow], [chp] *the open space surrounded by colonnades where they gathered to talk and discuss* [chp]

Guide: [chp] *A bireme* [cow] *children* [cow], [chp] *was a warship, it was,* [cow] *as you see* [cow], [chp] *very small, in order to be as agile as possible, it had two rows of oars at the sides, two on the one side and two on the other, that's why it is called a bireme and not a trireme* [chp].

The producers of Digital Miletus argue that the reconstruction of the ancient city presents the 'urban evolution of the city from Prehistory to late Classical times: public buildings, the mirror of political, economical and social life, as well as of cultural development'.⁴⁴ Yet, the connection between buildings and cultural processes is not self-evident.

Moreover, the reconstructed materialities are viewed from the perspective of their visual qualities (colours, textures, materials, light effects). The discourse of art history and the evolution of style fostered by Winckelmann in the eighteenth century is called upon: the beautiful, the sublime, the exceptional.

Guide: [chp] *The centre of the cult was this round building with the beautiful floor and it is called Tholos* [chp], [cow] *children* [cow]. [chp] *There are arcades all around* [chp].

Guide: [cce] *The first building* [cce] [chp] *is an outstanding example of an ancient Greek Agora, that is a wide rectangular space surrounded by arcades with small shops at the back* [chp].

Guide: [cce] *right opposite we see* [cce] [chp] *the City Gymnasium. Miletus' Gymnasium is one of the most beautiful buildings in the city* [chp].

Second, there is a category of verbs, in the past tense (for instance *led, produced, were selling*), which subserves description by pointing to stereotypical, everyday activities which took place in the past. These verbs introduce *narrative* elements, elements that inform us about life at the time. This happens not through a well-structured narrative, but through bits of narrative themes, which fit the

description of the single items. The focus is on *everyday life and public practice* in ancient Miletus. The Miletians as social actors fill the gaps in the description. By means of verbal information and special sound effects (fervent though intelligible discussions in the Council House) people are evoked, people who used to perform daily activities, attend rituals, take political decisions, erect monuments to the gods. Miletians act as characters in an implied narrative (that of the city in the past), which complements the visual with extra-visual information. This entails the rooms being populated only in the imagination of the visitor, a feature known as *conspicuous absence*, or alternatively the imaginary projection of the existence of life without the agency of avatars.⁴⁵ To imaginatively evoke a collectivity, to fantasize about it, is, as Sennett argues, the mark of narcissist *Gemeinschaft*, where community constitutes a projection rather than a concrete social milieu of exchange and action.⁴⁶

Guide: [chp] *think that the Miletian woke up in the morning, went about his various tasks, told his slaves what to do and then they came* [sic] *he came here to talk to his fellow citizens, to talk to his friend* [chp].

Guide: [chp] *And there are [...]* *only small shops in this colonnade. It serves only commercial purposes,* [cow] *right* [cow]? [chp] *So, here, they were buying, selling goods and this small room is the only one which is not a shop, it is a small sanctuary [...]* *There is a burning altar inside dedicated to some god* [chp].

Guide: [cce] *here* [cce] [chp] *sit the oarsmen who are usually slaves, while the citizens participate as soldiers here in the city [...]* *as warriors they sit on the deck, from where they fight the rival crews of the enemy ships* [chp].

Narrative themes contextualize the visual and attribute semantic depth to the restored ruins.

Third, description is never an objective rendering of facts. It entails *value judgement*. Value judgement makes statements about beauty, importance, excellence, expertise, thus underlining the choice of the descriptive themes. In history teaching, value judgment expressed through evaluative wording is a significant tool, which pedagogizes, thus popularizes, official historic discourse.⁴⁷ It is part of the interpretive process, as history is not written in a purely technical language but has recourse to everyday vocabulary to describe and explain. Problems arise however, when value judgements evident in texts and in the

teachers' talk are *not* addressed critically as judgements, but are, on the contrary, left uncommented as natural, third-person point of view utterances. In Digital Miletus extra-visual information via relational verbs (for instance *were called, was, became, culminates*) makes the presentation seem natural and creates third-person objectivity, which, as earlier discussed, often occurs in museums, and particularly, in historic exhibitions.⁴⁸

To sum up, description subserved by narrative constitutes the backbone of this chronotope, which is the chronotope of classical mimetic representation: visual accuracy in the reproduction of artefacts is backed up by verbal identification, i.e. when the guide explains that this is a specific public building. The argumentative purpose of mimesis is to present the digital reconstruction as a truthful reproduction of past reality, and the historic past as something graspable that can be restored.

The chronotope of the CAVE experience

‘Just as a human body moves through physical space in a continuous trajectory, the notion of history as a continuous trajectory is, in my view, preferable to the one that postulates epistemological breaks or paradigm shifts from one era to the next’.⁴⁹

Guide: [cce] *We'll start a journey in time, we'll go to* [cce] [chp] *ancient Miletus* [chp].

What we have just examined, the *chronotope of the historic past*, presents history as an object of observation, reconstruction and description. It makes the visualization of the past a positivist project of interactive media, where *objects* are deemed truthful copies due to scientific documentation and modelling techniques while *human action* is reduced to ghostly voices.

What we now turn to, the *chronotope of the CAVE experience*, is the chronotope of narrative. This chronotope does something rather unlike the above. At a surface level, it is entertainment. It seems a most playful and fairy-tale like chronotope, with all the diving, flying and swimming that takes place. At a deeper level, however, the *chronotope of the CAVE experience* offers a certain view of history. Namely it breaks with the tradition of semiotics and fosters the idea of history as unmediated, *lived* experience, a trajectory where humans participate in, live through, feel and act out. By drawing upon the epistemological para-

digim of phenomenology, this chronotope presents history as part of human life. History, in this view, is not a matter of factual description supplemented by bits of narrative to construct a spectacular/instructive account of past situations. History becomes the mode that we *connect* to the world, since narrative *is* everyday life. This is an important point and deserves clarification.

From a phenomenological perspective, narrative ceases to be a sheer *textual* form which we give to events in order to construct chronological sequences, as White and the tradition of post-structuralist semiotics maintain. Narrative is not a social construction, a product of specific social and epistemological conditions, but something more fundamental than that. It is natural, constitutive of life itself, and has a *practical* validity, in that it organises events and actions, both individual and communal. It takes events and actions, which feature in life as temporal configurations (listening to music, walking, brushing our teeth, playing a game and so on) and arranges them in large-scale temporal configurations, which make up real life. In real life, there is somebody who lives those temporal configurations through as events, experiences and actions, and gives them the status of a life narrative with beginning, middle and end, whereas at the same time this somebody is both the character and the storyteller and has a real and an implied audience, i.e. those people learning about the story. The phenomenological concepts of temporality and historicity, then, acquire their social dimension, since narrative captures the temporal logic of action in life: the ‘social dimension of narrative [...] is necessary for the full comprehension of history’.⁵⁰

Virtual travels and the idea of moving along a time axis encourage the connection between phenomenology and the German tradition of historicism, which I briefly touched upon earlier. Historicism, argues Durham Peters drawing on Benjamin, points to a one-way transmission. Psychological entities, ideas and thoughts are physically transferred in the manner that heat, light and other physical entities are. We can then move backwards at our ease in order to reach a fixed past just waiting for us to uncover it.⁵¹ What Digital Miletus argues for, in this chronotope, is *embodied historicism*, or the idea of being immersed in a historic continuum. Such views are informed by normative ideology. Normative ideology incites the viewer to consume ‘should-be’ reality and is thus suggested as a model for the present.⁵² The moral centre that structures narrative is national com-

munity, which continues a journey filled with adversities but not ruptures. History becomes naturalized like bodies moving in space and narratively experienced.

How, then, can embodied historicism be operative in immersive virtual reality? Research on the phenomenology of reading and analysis of immersion and presence in electronic media is called upon.⁵³

The participants, introduced to the chronotope through the guide's exhortation '*Shall we start? We are flying over Miletus*', undergo a process of symbolic transfer. They are transported in time to the referent of *mimesis*, i.e. the ancient city, and back again. This happens via *walking-through* and *flying-above*, two distinct navigation techniques drawn not only from contemporary arcade and home-based electronic games but also from early cinematography.⁵⁴

Guide: [cce] *now we'll take a walk to [cce] [chp] some of the buildings of ancient Miletus [chp].*

Guide: [cce] *Let's spend some time [cce] [chp] at the sanctuary of Apollo [chp].*

Guide: [cce] *And now that I have burned you, what about refreshing you? Shall I refresh you? We are descending from the roof at full speed! [cce].*

Actions define the main events of the virtual tour (depart, land, visit the ancient city, dive, fly back) and function as indicators of duration and pace.

As in fairy tales and stories symbolic transfer is a powerful narrative element enabling the reader to feel immersed in the story. By analogy with narrative schemes established in literature symbolic transfer in virtual reality turns the image of the ancient city and landscape into the background of a journey. The idea of immersing oneself in the past is greatly facilitated by the formal properties of the medium (image surround, depth axis, moving perspective). Presence, the feeling of being confronted by objects within the virtual environment, strengthens phenomenological views about history, namely the sense of being in history, living it and experiencing it bodily:

Guide: [cce] *You are inside the picture now, [cow] children [cow], look to your right, to your left and on the floor [cce].*

Guide: [cce] *To the right you can see the city, the city is passing to your right-hand side and to the left, these small*

spaces, these squares are [cce] [chp] the shops [chp].

These views are expressed in the motto *Experience history!*, which the producers emphasize, and constitute the expository power of this chronotope.

Alongside the educational aspect, intensely entertaining, roller-coaster elements evoke the surreal. Transportation entails suspension of disbelief on the part of the participants, especially schoolchildren, who play along and adapt to 'local conditions':⁵⁵

Pupil: [cce] *Are there sharks?*

Guide: [cce] *And we are going to take a dive here at the port of the Lions, put on your bathing suits, eh, block your nose, get the bottles of oxygen, all the equipment [the children ask the guide to slow down, laughter, shouts and exclamations especially when they approach the sea turtle].*

The surreal shakes the illusion of immersion and could be used to enhance the level of self-reflexivity in contemporary virtual heritage presentations.⁵⁶

Finally, transportation moves the participants away from the geographical and chronological here and now. The distance from the world of origin is covered with the help of magical means (magic carpets, wings etc.), which enable time-travel:

Guide: [cce] *At this point we'll say goodbye to [cce] [chp] the city of Miletus [chp] and come back to the present time. Our trip in time [cce], [cow] children [cow], [cce] ends here and from the first century we come back to 2000 [cce].*

The journey ends and the participants seem somehow emotionally affected by the experience.⁵⁷ Awe and admiration for something they had never been introduced to before is expressed at the end of the tour revealing the impact which the *aesthetic experience* has had on them. Pupils use evaluative predicates like the ones the guide uses in the *chronotope of the historic past*. Pleasure and the sublime are turned into normative principles of judgment:

Pupil: [cce] *Oh, it's beautiful!*

Schoolteacher accompanying the group: *Imagine how it was! And what colours*

Guide: *And what colours they had! But let's start...*

Pupil: *As if we were inside!*

Schoolteacher: *I say, what a tremendous experience!* [cce].

In short, narrative drawing upon diverse strands of phenomenology, much as in history as in media theory, informs this chronotope. Narrative is universal; it is the way that the mind works.⁵⁸ History, then, becomes the ‘womb’ that we swim in, not something that we construct in a self-reflexive way. In this view, the past is naturalized since symbolic transfer contradicts the idea of historic interpretation being based upon rifts and shifts of epistemological paradigms. Here is the main line of new media discourse exemplified by Manovich, whose words I used at the beginning of this section. Like a body moving from one place to another, the community moves along a series of stages on the time axis.

The chronotope of ‘our’ world
‘A presenter may, for instance, be trying to simultaneously manage the roles of purveyor of authoritative information and entertainer, while also trying to project herself or himself as an ‘ordinary person’, like the audience’.⁵⁹

Guide: [cow] *Children, it’s of course the experience itself but you must listen a bit too [...] unless you want to take me on a tour yourselves* [cow].

So far we have examined the ideological function (descriptive, normative) as well as the pedagogic function (propositional, experiential) of the previous chronotopes. The final chronotope is not about content-based knowledge. By concentrating upon the contemporaneity of both guide and participants, the *chronotope of ‘our world’* defines action: who does the talking, what is said and how knowledge and the medium itself are commented upon and meta-theorized. It shows how instruction and regulation operate within the framework of an informal learning context, such as museum and heritage communication. According to the proposed ideological scheme, the purpose of the talk is to create a general agreement on the historic past and the appropriate way to understand and approach it, something that brings about the third function of ideology, *consensus making*. So, this chronotope has a localized pedagogic function, which enables reflection on the other two.

In the theory of ideology, consensus making systematizes the description of the past and the prescription of a future to come by advising about the positions (roles,

rights, responsibilities, destinies) of the social subjects addressed. *Our world* is the space-time, in which both participants and producers live and participate, and where all measure themselves against the ancestors and let the historic past inspire them as regards the future. Unity and sustainability in the travelling community incites to common undertakings. It is what Lekkas terms the ‘ideology of action’.⁶⁰

In pedagogy, this form of advising on social roles and social action is canalized through *instructive and regulative* discourse. In Digital Miletus, the guide uses directives and meta-comments by adopting two distinct ‘voices’:

The voice of *expertise* expressed in exclusive *we*, is the voice of explicit authority. It comprises the role of the schoolteacher and the role of the specialist.

As a *schoolteacher*, the guide shows clearly who is in control of speech:

Guide: [cow] *Girls, children, could I ask you to be quiet and pay attention* [cow]. [cce] *We go on* [cce], [cow] *I understand it is kind of strange seeing something like this for the first time but we need some quiet so that I can talk to you* [cow].

Pupil: [cow] *OK* [cow].

In addition, the guide has direct control over the topic: in the scheme of classroom talk, knowledge is mediated through recitation, where the teacher controls the topic as well as the flow of talking. Recitation is based on a three-part sequence (IRE): a) Teacher Initiation, b) Student Response and c) Teacher Evaluation. It regulates instruction by establishing a pseudo-dialogic style between the educator and the pupils. In discussing the role of the teacher, Cazden observes: ‘the entire lesson can be seen as an interactional transformation of a lecture she could have given herself but preferred to transform into IRE sequences with slots for student responses in order to keep their attention or test their knowledge’.⁶¹ IRE in Digital Miletus is applied only to school groups, not to adults. It defines subject matter in line with what children read in textbooks, and alludes to the official guidelines that have traditionally marked formal education.⁶²

Initiation gives access to the chronotope of the historic past mainly through questions, which are either open (Do you know what they were doing?) or closed (Is it because it has three rows of oars?):

Initiation (question)

Do you know what they were doing on the altars?

Response

Sacrifices

Evaluation

Very well. They were offering sacrifices

and to a lesser degree through *directives/commands or combinations* (question and directive):

Initiation (directive/command)

Now, children, I want you to tell me what these ships are called. Can you recall?

Failure to respond

[Pupil, cannot be heard]

Guide prompting a response

Trireme? Why is the trireme called a trireme? Is it because it has three rows of oars?

Response

No

Evaluation and Initiation (question and directive)

It does have three rows. But are there three rows on this ship? Take a closer look.

Response

Two

Evaluation

It is two! Well done!

While curriculum knowledge derives from school education, specialist knowledge points directly to the intellectual field (archaeology, history, architecture, computer science, geography and so on). The guide becomes a specialist on the basis of: a) exclusive 'we' (*we have evidence from the sixth century onwards*); b) authoritative statements (*the statue would be here somewhere and would certainly face the altar*); c) meta-comments on the historic continuum and periodisation (*Let's not forget that this arcade dates to the Roman period, that is of a much later date*); d) meta-comments on the medium (*gradually of course, as the programme develops, more buildings will be added and we'll be able to get inside the houses, and maybe people will be added to the surroundings*).

In both roles, that of the schoolteacher and that of the specialist, the guide points to knowledge as something external to daily experience. It is knowledge objectified in education through studying and memorizing.

Conversely, the *voice of ordinariness*, refers to common experience. It belongs to the audience's 'world', expresses popularized forms of knowledge and informal learning contexts. The ideological function of this chronotope,

is brought about by the evocation of the familiar and the allocation of similarities between past and present. Similarities here are understood as *content likenesses* suggested by wording such as *the same way, like, today's, our, also, too*. Ideologically, similarities naturalize continuity. The participants become the carriers of common knowledge, which make them visualize links between past and present while the guide schematizes this implicit understanding. Taken literally, similarities appear as sheer anachronisms.⁶³ They present past reality as the outcome of evident connections with the present, and most importantly, connections fostered by scientific research. Knowledge remains trapped within the limits of a stereotypical version of the past. Pedagogy then refers to 'states of knowledge' rather than to 'ways of knowing'.⁶⁴

Similarities operate by accentuating: a) geographical continuity (*Can you recall the sea-battle of Salamis, which was close to you?*); b) historic continuity (*we could say that Apollo Delphinios was like St. Nicholas, the protector of sailors; the Ionic Stoa which, look, was something like a shopping centre*). While educators, especially experts in constructivist learning, might argue that common knowledge and the evocation of the ordinary facilitates knowledge mediation, it has, nonetheless, a strong ideological impact upon the way that we fantasize about and get emotionally involved with the past.

To sum up, in this chronotope I noted the interplay between two voices, that of the expert and that of the ordinary person. Expertise substantiates the ideology of continuity and the fidelity of the visual reconstruction by having recourse to science. Ordinarity acknowledges everyday life as the source of cognition. The former recalls positivist accounts of objectivity and authenticity whereas the latter points to a strong comeback of phenomenology within the context of late modern knowledge communication.⁶⁵

Concluding remarks

In the introduction, I asked a basic research question, namely in which way do new media platforms, such as the CAVE and immersive virtual reality, play upon and transform historic content. I shall answer by making two observations:

Digital Miletus is an example of popularized history within an informal learning context. No matter whether

the form (i.e. the CAVE) remains the same or an electronic avatar replaces the guide, Digital Miletus has set a precedent in the domain of virtual heritage. Thus, it can be examined as a case study and the resulting observations can be of value in other contexts too:

1. Digital Miletus draws upon amusement-park tradition, optical illusionism and three-dimensional moving imagery, so its structure seems highly *hybridized*. It is a representation oscillating between an academic presentation of the Hellenic Past, which recontextualizes art historical and archaeological discourses based on archival research, topographical and architectural accounts or on aesthetic judgment, and sensation-based aesthetics, visceral thrill and an intense evocation of the empathic. This fusion of spectacle and instruction merges history with heritage and thus establishes two dialectically opposed, tension-provoking, modes of history mediation: *artefactual* and *experiential* history. Official history, periodization, and the architectural style of capitals create a quite spectacular mix-and-match with dives, sacrifices, magic carpets and burning fires. *Game or History?* ask the producers of Digital Miletus (fig. 2). While this is clearly a rhetorical device to attract audiences, the conjunction ‘or’ plays a far more significant role than we might at first realize. Contrary to appearances, ‘or’ does not divide but counterpoints the two parts, which are both present in the communicative event. The resulting tension between Game (the experiential) and History (the facts) is *constitutive* of contemporary edutainment and does not leave space for pending dilemmas, such as ‘is it this?’ or ‘is it that?’ As content analysis has shown, tension marks the level of epistemology, where ideas about knowledge are negotiated (realist, positivist epistemology versus phenomenological positions), the level of aesthetics (traditional representations versus current multimodal participatory ‘events’) and the level of learning (history as textbook, classroom talk and expert knowledge versus history as simulation, spectacle and common knowledge).

2. Moreover, to demonstrate that epistemology and politics interconnect, an ideological scheme of analysis is applied. Its purpose is to give insight into the operation of language by pointing to the existence of text-types in speech (narrative, description, exposition), which relate

the verbal to the visual. Chronotopicity and intertextuality assist ideological analysis because they show how external views become particularized in Digital Miletus. What is important is that nationalist discourse should not be understood as an extreme position put forth by some aspirant populist leaders. As any discourse, nationalist discourse is embedded in daily life and in ‘banal’, commonsensical activities that do not betray any signs of political overtones. To show the past as a timeline is directly expository. However, it is traced behind the roller-coaster fun-time that people simply love. Banal nationalism, Billig argues, such as ‘flagging the homeland daily’, is never something we make a fuss about, least of all something we acknowledge as being ideological.⁶⁶

White, then, makes a crucial observation when he writes: ‘For if ideology is the treatment of the form of a thing as a content or essence, nineteenth-century historiography is ideological precisely insofar as it takes the characteristic form of its discourse, the narrative, as a content, namely, narrativity, and treats “narrativity” as an essence shared by both discourses and sets of events alike.’⁶⁷

In Greece, fervent discussions about a history textbook in 2007 seem to confirm the point, that ideology can conflate form with content.⁶⁸ Despite the fact that the book in question might have been over precipitate in its attempts at objectivity, current educational policy demonstrates the predominance of sentiment as a means of achieving popular appeal. Geographic and cultural continuity actualized in time-travel brings Apollo and St Nicholas, the Council House of Miletus and the contemporary Parliament, the Gymnasium and today’s school together in the big family of Hellenism. Thus, narrative in the form of historicism – as a condition of modernity rather than a universal pattern – appears to be the essence of the nation. Hellenism is portrayed as a time-travelling community, destined to stay well clear of any bumps on the road.

Delia Tzortzaki
 Directorate of Byzantine
 and Post-Byzantine Antiquities
 Hellenic Ministry of Culture
 angeliki@ruc.dk

NOTES

1. The FHW is a Greek, privately run, non-profit cultural heritage centre situated in Athens. It is devoted to research into and promotion of Hellenic history using state-of-the-art technology. It has no physical collections of objects but disseminates its work via temporary exhibitions, history on-line, publications, conferences and cultural events (<http://www.fhw.gr>, last accessed 21 October 2007).

2. Tzortzaki 2002; Tzortzaki 2004; Tzortzaki 2005.

3. Asia Minor is highly prioritized on the agenda of the FWH due to a combination of scientific and personal interests (e.g. the President of the Foundation originates from Asia Minor) (www.fhw.gr/choros/miletus/gr/general/topografia.html, last accessed 21 October 2007).

4. The FHW is among the very few cultural centres around the world to house a CAVE (the other main centres being the Ars Electronica Center in Linz, Austria, and the ICC in Tokyo, Japan). The CAVE, a 3x3 metre room-like construction, is a visualization platform of the *projection-based virtual reality* type, and was developed in 1991 by the Electronic Visualisation Laboratory at the University of Illinois, Chicago (<http://www.evl.uic.edu/pape/CAVE>, last accessed 15 October 2007). On the basis of computer-generated images projected onto the three walls and the floor of the CAVE and viewed with stereo glasses equipped with a location sensor, participants (ideally one at a time) experience the feeling of being physically immersed in the three-dimensional digital environment. The CAVE had its Greek premiere at the FHW in November 1999. Between November 1999 and June 2005 approximately 370,000 visitors – 75% of whom were schoolchildren between 6 and 15 years old – became acquainted with immersive virtual reality. Current demonstrations include a series of interactive reconstructions spanning from classical antiquity to Byzantine times. Groups of maximum 10 people accompanied by a museum educator enter the CAVE and share the experience of being ‘wrapped’ in the three-wall image.

5. Despite the fact that the CAVE is considered to be a multi-person environment, only one person, the educator, has control of the equipment. As a rule, the participants do not move inside the CAVE but stand still, next to the educator, to obtain the best possible perspective. This form of kinaesthesia is known as *vicarious kinaesthesia* (Darley 2000, 155-57). Yet the body feels the effect of real-time interaction with the virtual environment. Dizziness and loss of balance indicate *speed* problems. If the brain does not register changes in the visual field and responds in *real time*, physical reactions are a common result. Flight simulator pilots have shown permanent kinaesthetic disorders. For an overall technical description of Digital Miletus, see Gaitatzis 2000; Roussou 2002.

6. Immersive digital systems promote the aesthetic principle of *seamlessness*. This is the impression one gets during a smooth navigation in the virtual environment, where the moving image seems continuous and the technology used non-obtrusive in the process of procuring the illusion (for an application in museum contexts, see Thomas & Mintz 1998).

7. Simulations are representations which not only reconstruct visual aspects of materialities that are no longer visible (objects, buildings, landscapes) but also attempt to imitate situations that bring about certain states of experience, such as flying, diving, viewing things from angles impossible for the human eye and so on.

8. Bolter & Grusin 1999.

9. Merleau-Ponty 1999.

10. On the issue of heritage see for example Hewison 1987; Lumley 1994; Lowenthal 1998; Skeates 2000.

11. For an insightful overview I refer the reader to Samuel 1994.

12. Lowenthal 1998.

13. MacCannell 1992; Wang 1993, 3.

14. The concept of the time machine is owed to H.G. Wells and his eponymous novel *The Time Machine* written at the end of the 19th c. (Wells 1946).

15. Spencer 1998, 491 (my emphasis).

16. Rokeby 1998, 1.

17. Visitors, who travel in a roller-coaster type car and experience the life of the 10th c. York Coppergate, are surrounded by models of Vikings performing daily activities, physically reconstructed parts of the main street of the settlement based on factual evidence from the excavation, also smells and sounds (Pearce 1990, 164-67). As the time-car commentary goes: ‘time stops, history is frozen, this is Jorvik’ (Shanks and Tilley 1987, 86).

18. Bernstein 2000.

19. Role-play is a well-known educational activity in museums. Traditionally, it is a physically engaging activity engaging the senses and leading children away from ‘spectator play’ towards self-discovery (LaVilla-Havelin 1990, 12). Role-play creates *empathy* by letting players assume roles, thus adopting a different point of view (of a person, animal or even a ‘thing’).

20. See *IST Information Society Technologies 2003-2004 Draft Workprogramme*, also *Official Journal of the European Communities* 2002/C 32/02, 5 February 2002, *Official Journal of the European Communities* 2002/C 162/02, 6 February 2002.

21. White 1987, 1-25; Kokkinos 1998.

22. White 1987, 14.

23. In contemporary identity politics the social centre is dispersed, since legitimation comes from diverse groups and thus pursues diverse forms of identity. However, the Hegelian state, which White refers to here, or the idea of the community (national, local, supranational), albeit transformed in late modernity, still has the capacity to legitimate narratives. This happens on the basis of power relations firmly linking identity

with citizenship.

24. White 1987, 32.

25. Ranke's historiographic model of historicism tied together: a) the concept of *scientific* history (emphasis on evidence and sources and on the critical approach of historic texts); and b) the tradition of historic narrative. His aim was to consolidate the nation-state by presenting an objective account of political events and personal achievements that justified the conservative structure of the Prussian monarchy (Iggers 1984). Thus narrativity subverted positivist history.

26. Barthes 1981.

27. On this point see Hein 2000.

28. Hall 1997; Chouliaraki 2002.

29. Here I draw on Chouliaraki 2006, 60-66. Chouliaraki elaborates on the Bakhtinian concept of the chronotope and delivers a refined theory of mediation particularly applied in the analysis of television news.

30. Bakhtin 1981, 250.

31. From the perspective of linguistics (Systemic Functional Linguistics - SFL) see Halliday & Hasan 1989. From the perspective of Critical Discourse Analysis (CDA) see Chouliaraki & Fairclough 1999, which cunningly grounds language analysis and intertextuality within contemporary critical social research.

32. 'It is an important characteristic of the economic, social and cultural changes of late modernity that they exist as discourses as well as processes that are taking place outside discourse, and that the processes that are taking place outside discourse are substantially shaped by these discourses. For example, *flexible accumulation*' as a new economic force has been "*talked into being*" in the substantial literature on the new capitalism – including the works of management "*gurus*" which fill the shelves of airport and railway bookshops internationally – as well as being put into practice by practical changes in organisations' (Chouliaraki & Fairclough 1999, 4).

33. Halliday & Hasan 1989, 23.

34. Bakhtin 1981, 288-94.

35. Chatman 1990, 6-21.

36. To ground ideology within the pedagogic process Bernstein argues: 'As the discourse moves from its original site to its new positioning as pedagogic discourse, a transformation takes place. The transformation takes place because every time a discourse moves from one position to another, there is a space in which ideology can play. No discourse ever moves without ideology at play' (Bernstein 1996, 47).

37. Lekkas 1996, 50-72. Lekkas lists three functions of ideology in Greek: a) *descriptive*, b) *normative*, c) *consensus-making*.

38. For a distinction between political and cultural nationalism see Demertzis 1996, 227-36.

39. Wallerstein 2001, 138.

40. The tours were recorded on video in April 2000 at the FHW. In order for the reader to understand the segmentation of the talk into the three chronotopes, I use specific demarcation in the cited quotes: [chp] for the *chronotope of the historic past*, [cce] for the *chronotope of the CAVE experience* and [cow] for the *chronotope of 'our' world*. Certainly the proposed segmentation is schematic and serves the purpose of revealing the interwoven meanings. It does not imply any rigid dividing lines.

41. For example Hobsbawm & Ranger 1983; Anderson 1991; Gellner 1993; Woolf 1995; Demertzis 1996; Kokkinos 2003; Liakos 2005; Liakos 2007.

42. Bal 1997, 42; Chatman 1990, 20 on the *Guide Bleu*.

43. Urry 1999, 210-11 (my emphasis).

44. Text accompanying the web presentation entitled 'A Walk Through Ancient Miletus' (<http://www.fhw.gr/choros/miletus/en/start.html>, last accessed 21 October 2007).

45. On this point see Miklaucic 2003, 328.

46. Sennett 1974, 237-39.

47. Leontsinis 1994.

48. For a similar point, namely the attempt of American 'direct cinema' to let the scenes 'speak themselves' by effacing the presence of the director, see Kamara 2002, 68.

49. Manovich 2001, 285.

50. Carr 1986, 17.

51. Durham Peters 1999, 3, 8; Iggers 1984, chapter 1. Kellner proposes a distinction between *historicism* (narrative historiography focusing on political history, dramatic conflicts and crises) and its earlier forms known as *historism* (18th c.: Herder, Humboldt), where the process of humanity in all its diverse expressions was conceived as a divine plan (Kellner 1995, 14-15).

52. This point can be exemplified in the words of the President of the FHW: 'While there are countries with a shorter history who prove themselves in the best of ways, it seems Greece should create a foundation that will be able to represent ten thousand years of history and help Greeks acquire a deeper sense of their historic existence' (<http://www.fhw.gr/fhw/en/info/letter.html> Letter from the President, 27 November 1997, last accessed 11 October 2007). The Letter from the President continues: 'Our motivation lies in the certainty that the knowledge and understanding of Hellenic history gives a particular meaning to the life of Greeks today [...] For this reason, the Foundation aspires to belong to all Greeks [...] so that our valuable cultural heritage can be presented and diffused amongst younger generations, in Greece and abroad'. See also the mission statement of the FHW: 'to promote an understanding of the past as a point of reference for the shaping of the present and the future, so that modern thought may be inspired once again by the Hellenic spirit' (<http://www.fhw.gr/fhw/en/info/mission.html>, last accessed 11 October 2007).

53. On the former see Gerrig 1993, 10-17 while on the latter

see Ryan 2001.

54. In the twenties, the avant-garde film director Dziga Vertov reworked the tradition of first-person point of view cinematography by mounting a film camera on top of buildings and moving cars. His point was to simulate human vision in a much broader range of possibilities, what he called the 'kino-eye interface', by turning the camera into a data collector, an active explorer of city space (Manovich 2001, 275-76).

55. Gerrig 1993, 11.

56. Tzortzaki 2002, 282.

57. Gerrig 1993, 17.

58. Turner 1996.

59. Fairclough 1995, 127.

60. Lekkas 1996, 53-54; also 201.

61. For an analysis of classroom talk see Cazden 1998, 50; also 29-30 on the concept of recitation.

62. The official teaching guidelines issued by the Ministry of Education were intensely patriotic up to the end of the nineties: 1. Introduction to Greek tradition and to the problems of contemporary Hellenism 2. Understanding the fact of Hellenic continuity 3. Cultivation of a genuine patriotic spirit (Kokkinos 1994, 155). In 1998 the official teaching guidelines changed to more subtle forms of nationalist argumentation mainly observed in the selection and organisation of the subject matter of history (http://www.ypepth.gr/docs/prog_spoud_lyk_2001_2.doc, last accessed 21 October 2007).

63. Leontsinis 1994, 204.

64. Bernstein 1971, 57.

65. This remark on phenomenology is particularly informed by Zahavi & Christensen 2003.

66. Billig 1995.

67. White 1987, 30 (my emphasis).

68. On this debate, see Liakos 2007, 11-25.

REFERENCES

- Anderson B. 1991: *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (2nd revised edition; London and New York).
- Bakhtin M.M. 1981: Forms of time and of the chronotope in the Novel, in: Holquist M. (ed.), *The Dialogic Imagination: Four Essays by M.M. Bakhtin* (transl. by C. Emerson and M. Holquist; Austin) 84-259.
- Bal M. 1997: *Narratology. Introduction to the Theory of Narrative* (2nd edition; Toronto, Buffalo and London).
- Barthes R. 1981: The discourse of history, in: Shaffer E.S. (ed.), *Comparative Criticism: a Yearbook 3* (transl. with an introduction by S. Bann; Cambridge, London and New York) 3-20.
- Bernstein B. 2000: *Pedagogy, Symbolic Control and Identity: Theory, Research, Critique* (revised edition; Lanham, Boulder, New York and Oxford).
- Bernstein B. 1996: *Pedagogy, Symbolic Control and Identity: Theory, Research, Critique* (London).
- Bernstein B. 1971: On the classification and framing of educational knowledge, in: Young M. (ed.), *Knowledge and Control: New Directions for the Sociology of Education* (London) 47-69.
- Billig M. 1995: *Banal Nationalism* (London).
- Bolter D.J. & Grusin R. 1999: *Remediation: Understanding New Media* (Cambridge, MA).
- Carr D. 1986: *Time, Narrative and History* (Bloomington).
- Cazden C. B. 1988: *Classroom Discourse: the Language of Teaching and Learning* (Portsmouth, NH).
- Chatman S. 1990: *Coming to Terms: the Rhetoric of Narrative in Fiction and Film* (Ithaca and London).
- Chouliaraki L. 2006: *The Spectatorship of Suffering* (London).
- Chouliaraki L. 2002: The contingency of universality: some thoughts on discourse and realism, *Social Semiotics* 10(2) unpaginated.
- Chouliaraki L. & Fairclough N. 1999: *Discourse in Late Modernity: Rethinking Critical Discourse Analysis* (Edinburgh).
- Darley A. 2000: *Visual Digital Culture* (London and New York).
- Demertzis N. 1996: *Ο λόγος του εθνικισμού. Αμφίσημο σημασιολογικό πεδίο και σύγχρονες τάσεις* (Athens and Komotini).
- Durham Peters J. 1999: *Speaking into the Air: a History of the Idea of Communication* (Chicago and London).

- Fairclough N. 1995: *Media Discourse* (London and New York).
- Fragoudaki A. & Dragona T. (eds) 1997: 'Τι είν' η πατρίδα μας;' *Εθνοκεντρισμός στην εκπαίδευση* (Athens).
- Gaitatzes A. et al. 2000: Hellenic cultural heritage through immersive virtual archaeology, in: *Proceedings of the 6th International Conference on Virtual Systems and Multimedia* (Ogahi, Japan) 57-64.
- Gellner E. 1993: *Nations and Nationalism* (Oxford).
- Gerrig R.J. 1993: *Experiencing Narrative Worlds: on the Psychological Activities of Reading* (New Haven and London).
- Hall S. (ed.) 1997: *Representation: Cultural Representations and Signifying Practices* (London).
- Halliday M.A.K. & Hasan R. 1989: *Language, Context, and Text: Aspects of Language in a Social-Semiotic Perspective* (Oxford, New York and Toronto).
- Hein H.S. 2000: *The Museum in Transition: a Philosophical Perspective* (Washington and London).
- Hewison R. 1987: *Heritage Industry: Britain in a Climate of Decline* (London).
- Hobsbawm E. & Ranger T. (eds) 1983: *The Invention of Tradition* (Cambridge).
- Iggers G. 1984: *New Directions in European Historiography* (revised edition; Middletown, CT).
- Kamara A. 2002: Documentaries: function and fiction, *ΙΜΕΡΟΣ* 2, 65-71.
- Kellner H. 1995: Introduction: describing redescriptions, in: Ankersmit F. & Kellner H. (eds), *A New Philosophy of History* (London) 1-18.
- Kokkinos G. 1994: Η αντίληψη για το έθνος και την εθνική συνείδηση στα ισχύοντα αναλυτικά προγράμματα της πρωτοβάθμιας και δευτεροβάθμιας εκπαίδευσης, *Σεμινάριο* 17, 151-61.
- Kokkinos G. 1998: *Από την ιστορία στις ιστορίες. Προσεγγίσεις στην ιστορία της ιστοριογραφίας, την επιστημολογία και τη διδακτική της ιστορίας* (2nd edition; Athens).
- Kokkinos G. 2003: *Επιστήμη, ιδεολογία, ταυτότητα. Το μάθημα της Ιστορίας στον αστερισμό της υπερεθνικότητας και της παγκοσμιοποίησης* (Athens).
- LaVilla-Havelin J. 1990: Role playing in children's museums, *Journal of Museum Education* 15(2), 12.
- Lekkas P. 1996: *Η εθνικιστική ιδεολογία. Πέντε υποθέσεις εργασίας στην ιστορική κοινωνιολογία* (Athens).
- Leontsinis G. 1994: Αξιολογικές κρίσεις και διδακτική της εθνικής ιστορίας, *Σεμινάριο* 17, 193-224.
- Liakos A. 2005: *Πώς στοχάστηκαν το έθνος αυτοί που ήδελαν να αλλάξουν τον κόσμο;* (Athens).
- Liakos A. 2007: *Πώς το παρελθόν γίνεται ιστορία;* (Athens).
- Lowenthal D. 1998: *The Heritage Crusade and the Spoils of History* (Cambridge).
- Lumley R. 1994: The debate on heritage reviewed, in: Miles R. & Zavala L. (eds), *Towards the Museum of the Future: New European Perspectives* (London and New York) 57-71.
- MacCannell D. 1992: *Empty Meeting Grounds: the Tourist Papers* (London and New York).
- Manovich L. 2001: *The Language of New Media* (Cambridge, MA).
- Merleau-Ponty M. 1999: *Om Sprogets Fænomenologi. Udvalgte Tekster* (Copenhagen) 16-34.
- Miklaucic S. 2003: God games and governmentality, in: Bratich J. et al. (eds), *Foucault, Cultural Studies and Governmentality* (Albany) 317-35.
- Pearce S. 1990: *Archaeological Curatorship* (London and New York).
- Rokeby D. 1998: The construction of experience. Interface as content, in: Dodsworth C. Jr. (ed.), *Digital Illusion: Entertaining the Future with High Technology* (New York) 27-47.
- Roussou M. 2002: Virtual heritage: from the research lab to the broad public, in: Niccolucci F. (ed.), *Virtual Archaeology: Proceedings of the VAST 2000 Euroconference* (Oxford) 93-100.
- Ryan M.L. 2001: *Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media* (Baltimore and London).
- Samuel R. 1994: *Theatres of Memory, 1: Past and Present in Contemporary Culture* (London and New York).
- Sennett R. 1974: *The Fall of Public Man* (New York and London).
- Shanks M. & Tilley C. 1987: *Reconstructing Archaeology: Theory and Practice* (Cambridge).
- Skeates R. 2000: *Debating the Archaeological Heritage* (London).
- Spencer H.A.D. 1998: Supercharging the cultural engine: advanced media at heritage and educational attractions, in: Dodsworth C. Jr. (ed.), *Digital Illusion: Entertaining the Future with High Technology* (New York) 489-500.

- Thomas S. & Mintz A. (eds) 1998: *The Virtual and the Real: Media in the Museum* (Washington).
- Turner M. 1996: *The Literary Mind: The Origins of Thought and Language* (New York and Oxford).
- Tzortzaki D. 2002: Virtual reality as simulation: the CAVE as 'Space of Illusion' in museum displays, in: Qvortrup L. (ed.), *Virtual Space: Spatiality in Virtual Inhabited 3D Worlds* (London) 258-84.
- Tzortzaki D. 2004: Πλαίσιο, μορφή, περιεχόμενο: πολιτισμική προσέγγιση μιας εφαρμογής εικονικής πραγματικότητας, in: *Proceedings of the 1st International Conference 'Museum, Communication and New Technologies'* (Mytilene) 51-63.
- Tzortzaki D. 2005: *Ταξίδι χωρίς τέλος* στο Ευγενίδειο Πλανητάριο. Ο ρόλος της ψηφιακής πολιτιστικής κληρονομιάς στη διαμόρφωση παιδαγωγικών ταυτοτήτων, *Τετράδια Μουσειολογίας* 2, 58-62.
- Urry J. 1999: Gazing on History, in: Boswell D. & Evans J. (eds), *Representing the Nation: a Reader. Histories, Heritage and Museums* (London and New York) 208-33.
- Wallerstein I. 2001: *Unthinking Social Science: the Limits of Nineteenth-Century Paradigms* (Philadelphia).
- Wang N. 1999: Rethinking authenticity in tourism experience, *Annals of Tourism Research* 26(2), 349-70 (<http://www.sciencedirect.com/science>, last accessed 22 October 2007).
- Wells H.G. (1895) 1946: The Time Machine, in: *The Time Machine: The Wonderful Visit and Other Stories* (London) 3-118.
- White H. 1987: *The Content of the Form: Narrative, Discourse and Historical Representation* (Baltimore and London).
- Woolf S. (ed.) 1996: *Nationalism in Europe, 1815 to the present: a Reader* (London).
- Zahavi D. & Christensen G. 2003: *Subjektivitet og videnkab – Bevidsthedsforskning i det 21. Århundrede* (Copenhagen).

