

T_Visionarium: the aesthetic transcription of televisual databases

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Concepts

This paper takes the form of a series of thematic reflections on digital aesthetics. These reflections are focused around an experimental artwork, entitled *T_Visionarium*, we are currently developing at the iCinema Centre for Interactive Cinema Centre, University of New South Wales and ZKM, Karlsruhe. The essential thrust of the paper is to suggest that databases can be productively approached using aesthetic and philosophical concepts of transposition and ascription rather than the conventional archaeological concepts of access and retrieval.

1 Transcriptive narrative

The paper is founded on the concept of aesthetic transcription as a model for the production of interactive narrative within digital cinema and new media. Transcription refers to the way the aesthetic allows viewers to transpose from one form of sense experience to another, to transact across experiential contexts. In the case of our experimental work, it refers to the capture, transposition and recomposition of multi-layered forms of sensory information within digital environments. By means of the experimental extended virtual environment *T_Visionarium*, whose first prototype was presented at Lille Cultural Capital, Europe, from December 2003 to March 2004, viewers are enabled to capture, transpose and recompose global televisual data.

The significance of *T_Visionarium* is set against the fact that while narrative is central to conventional cinema, the theoretical and experimental emphasis upon simulation has led to two separate consequences within digital cinema and new media. Firstly, it has led to the narrative potential within these art forms being overlooked. Secondly, it has seen the aesthetic potential of televisual database interactions being ignored.¹

The paper addresses the concern that it is limitations in the understanding of narrative, as opposed to technical understanding, which have restricted the aesthetic development of new media and digital cinema in terms of interactive narrative. Through its focus on viewer-generated recomposition of televisual data, *T_Visionarium* seeks evidence of how interactive narrative, exists across simultaneous layers of time, and in other words how it is multi-temporal. *T_Visionarium* frames televisual databases not in terms of a spatial archaeology, which can then be accessed and retrieved, but in terms of multi-layered temporal compositions, which can unfold through their dialogue with the viewer. In this way the viewer and the database form a digital ecology able to generate unprecedented aesthetic and social meanings.² The *T_Visionarium* methodology provides a model for transcriptive strategies across a range of databases. For example, it can be applied to other database formations such as the Internet, libraries, image archives along with the abstract modeling of

¹ Jean Baudrillard, *The Transparency of Evil*, Verso, London, 1993; Jean-François Lyotard, "Idée d'un film souverain," in *Misère de la philosophie*, Galilée, Paris, 2000; Martin Rieser, Andrea Zapp, *New Screen Media: Cinema/Art/Narrative*, BFI Publishing, London, 2002.

² Dennis Del Favero, Ross Gibson, Ian Howard and Jeffrey Shaw, "The reformulation of narrative within digital cinema as an integration of three forms of interactivity," *ARC Discovery Project*, 2002.

viewer attitudes applicable in a range of fields. By sifting through seemingly chaotic and unrelated data, transcriptive narrative creates a new logic of inter-relationship between data. This "media ecology" recycles apparently waste data into new sensory fields of experience and communication. At an individual level, applying transcriptive narrative to materials already bound together in emergent narrative formations – such as family photo and video archives – reveals the profoundly expressive potential of transcriptive narrative, especially revealing to those who are its participants.³

Transcriptive narrative achieves this media ecology by integrating the multi-temporal qualities of narrative with the multiplicity of modes built into digital information. As an experimental integration of these temporal qualities *T_Visionarium* aims to test the simple proposition that interactive narrative occurs by means of the transportation of the multiple modalities of digital information across virtual time. In testing the transportation of information within virtual time, however, we anticipate evidence of the previously un-described multi-temporal qualities of narrative. In this multi-temporal form of narrative viewers not only re-compose complex information into distinct temporal episodes but also simultaneously experience the unanticipated temporal consequences of these virtual episodes as real events. This dynamic form of engagement with time, involving the emerging and looping intersection between virtual time and real time, produces a mode of narrative that contrasts dramatically with the temporal sterility of the closed narrative menus typically found in computer games and database formations.

The re-enactment of televisual information as proposed by *T_Visionarium* has the potential for allowing a multiplicity of significant unfolding to occur within the original data. Currently the great mass of broadcast or recorded televisual information is received indirectly by the viewer and sorted retrospectively in memory. This information is encountered through techniques such as channel hopping, muting, multi-screens, assembly in different contexts, or fragmented through time-delay and by report. Thus although television broadcasts may begin as purposeful forms of cultural communication, their meaning goes beyond their original producer's intentions as this meaning is digitally composed into irreversible narrations.⁴

On the other hand a transcriptive approach to this data would enable a reformulation of the broadcast data, allowing it to remerge in new narrative encounters. In relation to the purposes of transcriptive narrative, the French philosopher Michel Serres argues: "We are dealing less with the story of how something came about than with the dramatization of pre-existing forms."⁵ Transcriptive narrative dramatizes the world instead of freezing it into schematic representations. It transforms the cinema into a kind of Platonic cave wall onto which viewers project, then respond, to the episodic shadows of their journey through cultural information. It is only insofar as digital technology accomplishes the awesome task of transporting multi-modal data into virtual time that the aesthetic potential of interactive narrative can be tested. The concept of multi-modal refers to a number of distinct properties of digital media. These include the complex set of modes in which this data exists, ranging from its original transmission mode, as in televisual broadcasts, through to its symmetrically recorded mode, say as in DVD, and onto its asymmetrical modes when it is recombined within non-genre specific contexts such as databases.

To test our concept of transcriptive narrative we are in the process of developing the extended virtual environment *T_Visionarium*, in prototype and demonstrator form. *T_Visionarium* is an

³ Gilles Deleuze, *Negotiations 1972-1990*, Columbia University Press, New York, 1995; John Searle, *The Construction of Social Reality*, Penguin Books, Harmondsworth, 1995; Michel Serres, *The Birth of Physics*, Clinamen Press, Manchester, 2000.

⁴ Ilya Prigogine, *The End of Certainty: Time, Chaos and the New Laws of Nature*, The Free Press, New York, 1996, p. 27.

⁵ Serres, *The Birth of Physics*, op. cit., pp. 84-88.

extended virtual environment set within a dome, 12 meters in diameter, 9 meters in height, made of inflatable fabric.

2 *T_Visionarium*

In the Lille prototype the viewer, on entering the dome, places a position-tracking device on their head, connected to cableless stereo headphones. The viewer then steps onto a control platform located at the center of the dome that is equipped with a remote control, projector and computational hardware/software. We will refer to this systems' combination as the recombinatory matrix. The remote control enables the viewer to thematically select from amongst *T_Visionarium's* televisual database by selecting a specific recombinatory category.

For Lille the recombinatory categories are quite basic. They include such categories as "greetings", "embrace". The database itself is constituted by the recording from 48 global satellite-television channels during one simultaneous sixty-minute period. These 48 hours of global televisual data are post-processed by a software matrix in ways that hyperlink the different data sets in virtual time so as to form the televisual database.

The projection system is fixed on a motorized pan-tilt apparatus mounted on a tripod which projects televisual data onto the interior skin of the dome. The projection system is articulated to the tracking device in such a way that movement of the viewer's head causes the large projected viewing window to travel across the interior surface. This tracking device identifies the exact orientation of the viewer's point of view, which in turn controls the orientation of the projector so that it beams its image directly to the spot where the viewer's eyes are fixed. The audio-visual data streams are virtually distributed over the entire surface of the dome, so that the movement of the projection windows enables the viewer to navigate between these data streams. The delivery software creates a spherical distribution of all the televisual data by its real-time texturing onto the dome. In other words, the stored televisual data sets are physically mapped over the dome surface such that each data set, whether from Al-Jazeera or CNN, is allocated a specific window grid on the dome's surface. This enables the viewer to navigate between each data set by merely shifting their point of view. This mapping strategy applies to both image and sound. Seamless transitions between discrete image and sound events are handled by the design of the audio-visual delivery system. The mixing of the audio, synchronized with the movement of the pan-tilt projection system, allows a spatialized soundscape inside the dome to be synchronized with the visual experience.

By means of interaction with the remote interface and the simultaneous movement of the head and projection window, the viewer generates unique performances on behalf of a larger viewing public of up to fifty people.

Based on deep content authoring, which allows high levels of classification, the recombinatory matrix sorts the data according to classifications such as language, movement, color, speech, composition, lighting and pattern recognition. As already noted these classifications are then regrouped in the on-screen menu available to the viewer through a range of thematic categories, such as "greetings".⁶ After selecting a category to frame their search, the viewer explores the results of their recombinatory searches using these categories by moving the projection window across the dome screen as they move their head. In the as yet to be completed final demonstrator of *T_Visionarium* the remote control is to be replaced with a keypad, allowing for database access via viewer determined

⁶ H. Wactlar, M. Christel, Y. Gong, A. Haputmann, "Lessons Learned from Building a Terabyte Digital Library," 1999.
http://www-2.cs.cmu.edu/~hdw/IEEEComputer_Feb99.pdf

keywords. In this final demonstrator, for example, the viewer may type in the keyword “home”. This would then usher forth intersecting dramatizations of “home” episodes as extracted from current affairs, sports, features, life style, historical, scientific and mini-series broadcasts from 48 channels, all within the simultaneous pre-recorded sixty-minute time frame. In their totality these channels embody a multiplicity of languages, numerous time zones, and heterogeneity of cultures.

In this way the recombinatory matrix unravels convergences of multi-modal televisual data at levels of temporal density that only be revealed as they come together in the extensive virtual time projected across the dome. The viewer can extend these events as they unfold. For example they can fine-tune the search within the keyword of "home" by adding the keyword "violence". Thus, by changes in point of view the viewer activates a powerful navigational framework that produces a directional flow of information in which the expressive meaning of the data is boundlessly translated.

The profoundly multi-temporal logic at work here echoes the structure implicit in digitized audio-visual data.⁷ This logic is imperceptible in conventional televisual transmission and viewing, as the latter establishes symmetrical patterns of temporal resemblance among broadcast items. The reason for this is that they are based on syntactical properties inherent in the data where classification is based on conventions of genre, for example, sport, and structures of transmission, for example, CNN.⁸ Transcriptive narrative, as embodied here, moves beyond this logic of resemblance to develop a logic of transposition. It is able to unfold new content within a virtual information sphere of digitized images and sounds whose patterning is freed from the constraints imposed by the representational re-delivery of information, the standard database paradigm.

Sifting through digitized televisual data, the viewer unravels invisible links. By cutting the multi-modal structure of pre-recorded information at a number of aesthetically significant points, the recombinatory matrix brings together new audio-visual streams into episodes that can be re-assigned a new narrative function. Reassignment is made at the discretion of the viewer within the possibilities provided by the virtual time of the digital environment.

As a consequence, narrative becomes a complex event which interweaves a number of intersecting temporal and physical navigations. In terms of time, the matrix allows for the intensive navigation of symmetrical audio-visual data and their reconfiguration into hyperlinked asymmetrical virtual streams. For example, as I have already noted, after selecting a specific parameter, say "home", the viewer can refine these streams by zooming into a specific current, say "violence", within the streams. Once these new virtual time currents are projected across the dome, the viewer can process them in real time by physically navigating the projection window across the dome's surface. This interweaving of matrix and viewer navigation with virtual-time processing precipitates the emergence of unprecedented narrative events. In this respect *T_Visionarium* opens interactive cinema and new media to a multi-modal aesthetic.

3 Reformulation of interactive narrative

The interactive architecture of digital technology provides a fresh opportunity for reformulating the role of narrative within digital cinema and new media.⁹ Current experimentation in interactive

⁷ Elizabeth Grosz, *Becomings: Explorations in Time, Memory and Futures*, Cornell, New York, 1999, p. 27.

⁸ Juan Casares, "Silver: An Intelligent Video Editor," 2001.
<http://www-2.cs.cmu.edu/~silver/CasaresShortPaper.pdf>

⁹ Soke Dinkla, "The Art of Narrative – Towards the *Floating Work of Art*," in Rieser, Zapp (eds), op. cit., p. 34; John Dovey, "Notes Toward a Hypertextual Theory of Narrative," in Rieser/Zapp (eds), op. cit., p. 144.

narrative is handicapped by under-theorization of the role of time and temporal events.¹⁰ We know, for instance, that digital architecture is multi-modal.¹¹ We also know that multi-modal artifacts are shaped by software rather than linguistic codes.¹² Software compresses information into thick units of virtual meaning. *T_Visionarium's* manipulation of culturally prefabricated information rehearses the longstanding artistic tradition of transcription.¹³ In this tradition the artist is presented with a body of meaningful informational data which they reassemble in the process of creation, transposing the sensory form and hence meaning of data as it is reassembled.

However, the multi-modal information employed in digital forms of production asserts an independent agenda as this information rehearses the inbuilt eventfulness of the software. Cinematic narrative, unlike literary narrative, is distinctively eventful. According to the French philosopher Gilles Deleuze, the two key variables in the formulation of cinematic narrative are duration and movement.¹⁴ Thus, even in conventional cinema the viewer's direct awareness of unfolding events is necessary in bringing the narrative to closure. When the opportunity to direct the duration and movement of information is also seized by the viewers, then they gain, in principle, possession of the tools necessary for the production of narrative. The viewer is able to effect the lines of narrative not only indirectly, by re-assigning the symmetrical network of episodic links between the information, but also directly through asymmetrical reflection on the unprecedented nature of these episodic networks as they unfold.¹⁵ However, the narrative reassignment of complex multi-modal information is only practical within the dialogic context of virtual environments. Only within the technical possibilities afforded by digital technology can the viewer assert autonomy over the temporal structure of the narrative. The recombinatory power of the digital software proposed in *T_Visionarium* allows televisual kinds of information to be analyzed and broken down into complex temporal layers. It also enables viewers to reassign the connections among these layers by overlapping them until they cascade into new episodes of autonomously unfolding events. *T_Visionarium's* recombinatory matrix furnishes the viewer with multiple entry and exit points to and from the information, as well as with the facility to rehearse this information as narrative content on the fly.¹⁶ Its software is engineered to capture existing televisual information in ways sufficiently sensitive to the qualities of the viewer's reflections.¹⁷ *T_Visionarium's* multi-temporal narrative structure, by allowing viewers to reflectively and independently recompose existing televisual broadcast data according to their particular concerns, can serve as a prototype for autonomously focused database and artistic interaction.

In the second respect, the reasoning which guides the design of the transcriptive software is based on an associative logic. This associative logic has been studied by the philosopher John Searle.¹⁸ He argues that meanings are ascribed to cultural artifacts according to the associative functions their stakeholders agree upon them to perform. He cites money and calendrical time as instances of significant social artifacts existing only by virtue of the associative functions attributed to them. Insofar as functional properties can be ascribed, it follows that properties such as international

¹⁰ Ralph Melcher, *Stations: Bill Viola*, Hatje Cantz, Ostfildern, 2000; Tony Dove, "The space between: telepresence, re-animation and the re-casting of the invisible," in Rieser/Zapp (eds), op. cit.

¹¹ Peter Weibel, "Narrated Theory: Multiple projection and Multiple Narration," in Rieser, Zapp (eds), op. cit., p. 51.

¹² Lev Manovich, "Post-Media Aesthetics," in *disLOCATIONS*, Dennis Del Favero, Jeffrey Shaw (eds), ZKM Center for Art and Media, Karlsruhe, Hatje Cantz, Ostfildern, 2001.

¹³ Peter Weibel, "Post-Gutenberg Narrations," in Del Favero/Shaw (eds), op. cit., p. 28.

¹⁴ Gilles Deleuze, *Negotiations 1972-1990*, Columbia University Press, New York, 1995, p. 59.

¹⁵ Arthur Danto, *Analytical Philosophy of Action*, Cambridge University Press, Cambridge, 1973, p. 117.

¹⁶ Manovich, "Post-Media Aesthetics," op. cit., p. 16.

¹⁷ Manovich, "Post-Media Aesthetics," op. cit., p. 17.

¹⁸ John Searle, *The Construction of Social Reality*, Penguin Books, Harmondsworth, 1995.

currency-exchange rates are always open to re-ascription through the interaction of players. However, openness to re-ascription does not necessarily mean that meaning is relativistic.¹⁹ Neither does the process of ascription suggest a world where human meaning is pre-determined. Ascription rather refers to the patterns of associative logic at work in all human arrangements.²⁰ It is a critical role of the new media, through its use of associative and transpositional logic, to act as an instrument in the aesthetic reformulation of cultural meaning and to serve as a site of cultural contestation.

4 Multi-temporality

T_Visionarium formulates a multi-temporal approach to interactive narrative. It takes a novel approach to the theorization of content within digital media, which is currently informed by uni-temporal and simulatory rather than cinematic understandings of aesthetic production.²¹ The reason why we have chosen a multi-temporal approach is twofold.

Firstly, we are careful in *T_Visionarium* not to equate the unfolding of narrative with the simulation of movement. While movement is a defining feature of cinema, movement and its simulation alone provides an insufficient basis for the theorization of cinematic narrative. Animation of spatial movement produced by the donning of video headsets, for example, beg the question of narrative. We also set aside the hyper-representationalism of Jean Baudrillard, for whom digital narrative invokes a field of infinitely reversible simulacra.²² Such a symmetrical world of linguistic simulacra can never actualize new narrative content or unfold narrative events as it flattens time into a never-ending mirror of itself.

Secondly, in *T_Visionarium* we turn away from psycholinguistic assumptions that understand narrative as the recovery of representational structures from past memory.²³ Following Deleuze we approach narrative as the recomposition of events within the emergent memories of the viewer. For Deleuze the process of thought is described as episodic reflection on the contingencies of a self-conscious passage through temporal reality.²⁴ For *T_Visionarium*, the dynamic potentiality of utilizing complex relationships between different layers of time, for example the speed and position of the viewer's head linked to graphics software parameters, enables the bonding of navigation and narration.

"Liens"

Finally by way of summation, let us return briefly to the philosopher Michel Serres. Serres explains the narrative relation between the subject and the object as the interrelationship between two mutually dependent temporal systems. For Serres, subjects and objects are interactively defined by their temporal relations with each other. Serres illustrates this relation by reference to the invention of geometry by the Greek mathematician Thales.²⁵ For Thales, the measurement of the length of the shadow of a pyramid at a particular time of day involves the interrelationship between three things: an object in motion - in this case the sun; an object at rest - in this case the pyramid; a

¹⁹ Searle, op. cit., p. 15; Weibel, "Post-Gutenberg Narrations," op. cit., p. 35; Neil Brown, "The imputation of authenticity in the assessment of student performances in art," in *Educational Philosophy and Theory*, vol. 33, no. 3-4, p. 313.

²⁰ Pierre Bourdieu, *Outline of a Theory of Practice*, Cambridge University Press, Cambridge, 1982, pp. 163-7.

²¹ Jean Baudrillard, *Symbolic Exchange and Death*, Sage, London, 1993, p. 70.

²² Baudrillard, *The Transparency of Evil*, op. cit.

²³ Paul Willemsen, "Reflections on Digital Imagery: Of Mice and Men," in Rieser, Zapp (eds), op. cit., p. 20.

²⁴ Baudrillard, *The Transparency of Evil*, op. cit., p. 149.

²⁵ Michel Serres, *Hermes: Literature, Science and Philosophy*, John Hopkins University Press, Baltimore, 1982, p. 90.

subject who transcribes the interrelationship - in this case the mathematician. In formulating measurement as the temporal relation between the pyramid, the sun and mathematician, Thales conceives geometry as a narrative of time. Here Serres is proposing that subjective activities, such as narrative transcription, are intertwined with objective processes, such as motion, whereby narrating becomes navigating and navigating becomes narrating. In this way subjectivity and objectivity form a bond, or "liens", of interactive encounters generated by their ever-evolving multi-temporal relationships with each other.²⁶

Similarly *T_Visionarium* brings together subjective and objective processes within the digital field. Viewers, through their movement and navigation across the multi-temporal streams of the recombinatory matrix, are able to reformulate their experience of global television, transposing their encounters with the data flows into unprecedented narratives of interaction between viewer and televisual data.

²⁶ Michel Serres, Bruno Latour (eds), *Conversations on Science, Culture and Time*, University of Michigan Press, Ann Arbor, 1995, p. 177.