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INTERACTIVE NARRATIVE- EDUCATING THE AUTHORS

In the brief time that interactive narrative has existed as a part of digital media, it has continously been transformed and reinvented both in form and in through the audience's increasingly sophisticated understanding of interface conventions. In this its development resembles the early days of cinema As we move from the equivalents of "tableaux vivant" to the appearance of the first D.W Griffiths or Eisenstein, the need for authorial understanding of the medium becomes the more pressing. Even defining its quintessential differences from other forms of narrative is not an easy task
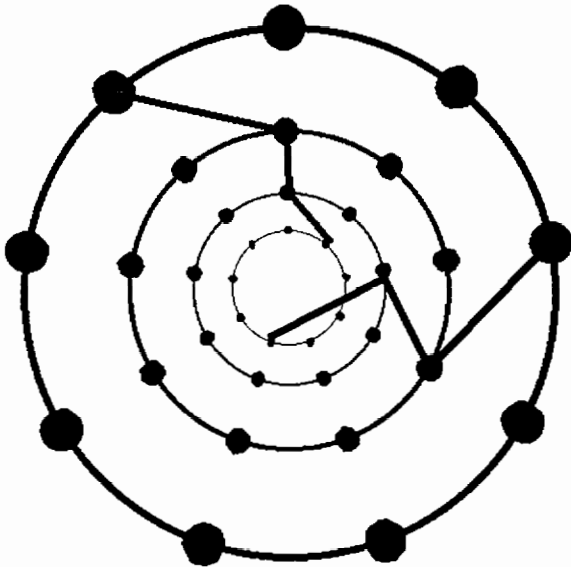
Defining its properties

In our inner lives we are constantly converting the past into an edited hierarchy of the significant or trivial. This process is one of memory, but while events may be recalled in an associative or seemingly random manner, they are always tied into a mental structuring implicit in the history of the individual, which makes a personal narrative out of apparent chaos This unspoken frame of reference permits non-linearity.

But even when narrative enters into the social domain (although communication tends to rely on linearity in the bulk of oral, written or cinematic narrative) there is no clear juncture between linear and non-linear forms. It is simply untrue that linear media dominate the form of narratives. Many narratives break the linearity of time or viewpoint. Where would Hollywood be without the "Backstory" or the post-modern novel without its sudden shifts of voice and genre? One must distinguish narrative form from the specificity of its medium. Linearity and non-linearity are both familiar fictional forms regardless of media. Non or multi-linearity is not by itself the defining criteria of interactive forms .

While any definition of narrative must surely revolve around a shared imaginative process of construction, this process can be linear or non-linear . To be effective it demands an active participation on the part of the audience. How then does interactive narrative differ from preceeding forms? It is my contention that so-called interactive media contain the potential to liberate writers and artists from the illusion of authorial control in much the same way as photography broke the naturalist illusion in art, exposing it not as an inevitable form, but as just another set of conventions.

The real problem for many commentators on interactive narrative media is that the addition of user interactivity appears to place an intolerable burden on what is generally understood as traditional narrative structure. It implies that the reader/spectator be transformed into a true authorial role as shaper of events , weaver of stories, a possessor of agency . For the artist willingly struggling to achieve this transfer of control of narrative to the reader, the task often seems akin to squaring the circle. Without direct authorial control the narrative risks fragmentation into a matrix of small, seemingly arbitary story pieces or disappears altogether in a maelstrom of chaotic events.

It is also not suprising that interactivity in multimedia is prescribed by the nature of the interface and tends to involve trivial 'point and click' actions on the part of the audience. This
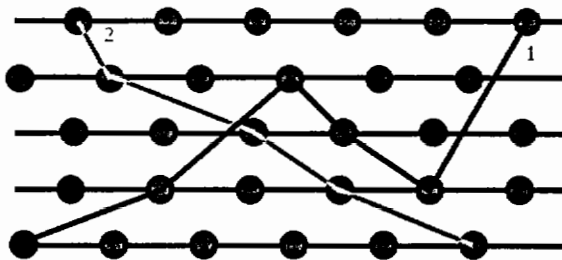
Shell or web model of interactive narative structure

where the user is freed both from the slavery of linearity and the reductivism of branching plot choices?

In the written work of Robert Coover for example, we can find an attempt to map a different approach: the sudden move from stream to stream of parallel lives or consciousnesses In The Babysitter [7] interwoven scenes are retold with ever more fantastic erotic vigour, as though a heavy breather had control of a narrative joystick and kept pressing a "more bizarre" button. This method has transferred seamlessly into his later hyperfictions This "electron shell" structure offers a possible structural alternative to the common branching of hyperfictions or the maze form of the spatially mapped narrative common in CDrom narratives such as Freakshow, Myst or The Seventh Guest.

Grahame Wienbren also proposes an alternative model, a free two-way transaction between material and audience, only patially achieved in his own interactive cinema piece "Sonata" [8]

"The ideal is a responsive representation machine, responsive in its capacity to change according to how the viewer responds to it With such a machine, a new language of cinematic communication will be possible and a different type of narrative can unfold." [9]
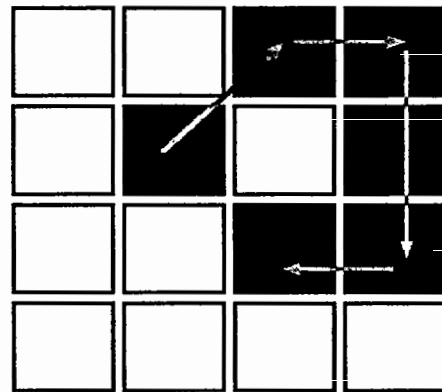

streams or flow model of interactive narrative

In Graham Weinbren's Sonata the viewer can only control aspects of the narration - moving from the murderer of Tolstoy's Kreutzer Sonata telling his story in the railway carriage, to the events themselves, which can in turn be overlaid with the mouth of Tolstoy's wife berating the author, referen-

ces to Freud's "wolfman" case, Judith and Holfernes etc In one sense Sonata is linear, with time's arrow pointing forward, but it never reads the same way twice .

This creation of meaning by the audience through the association of parallel stories or story fragments avoids the problem of chronology , since the arbitary jumps are felt to convey meaning in the same way as in dreams . Such a structure can be envisioned as in the diagram below:

This model has proved to be a valuable one for students to explore: Ian Whalley's experimental student Conversation Piece [10], parallel conversations, recorded in front of Matisse's "Snail" in the Tate Gallery anchor a dynamic multimedia typographic interpretation of the human interactions. Viewpoints can be accessed by selecting the representations of two pairs of spectators. Casting himself in the role of the observer, his wry internal thoughts counterpoint their banal blather in both sound and expressive dynamic typography . Seemingly a piece of lightweight humour, the work has to be re-run several times before its actual density is revealed.

In David White's student work Inside Woody Allen's Brain [11] he attempts to match familiar fragments from Allen's films to moving text projected in the form of the audience's questions, who thereby assume the role of his psychoanalyst . The piece depends entirely on inflection . The spatial intersection of moving 3D icons and the written questions' position allow for a wide combination of responses. Allen's thoughts lie scattered on the floor like children's toys. If one picks up a 3D New York cab and uses it as a cursor, the floating questions respond with Manhattan-based material. Intersect with a question in front of Allen's comic persona and the inflection is comic, intersect over a serious persona and the answer is correspondingly deep. Allen's alter ego responds accordingly as a series of integrated quick-time movies of him agonising on the couch.

Simple Matrix model of interactive narrative

In Jon Dovey's Moviola Toybox [12] CD rom cotribution, The Desktop Theatre of Amnesia (Jon is a member of the Ship of Fools research group) the techniques of parallelism were tested in a simpler structure, as emotional states and their visually equivalent symbolic analogues are mapped onto a matrix of Quicktime mini-movies, like multiple personalities caught inside adjacent frames, reinforcing poetic resonance by proximity. Accessing the material in any order , the audience reconstructs the curve of an unhappy love affair.

This approach was developed in Lorraine Atkinson's student work The Streets I knew so well [13]. Based on memories of living in Berlin for several months, the matrix of a mental jour-

elevation of interface over content and meaning has rightly been identified by Grahame Wienbren as a product of software dominating narrative form:

"However the structure that appears to have become established is based on the viewer's choosing what he or she wants to see next and in most computer programmes this is determined by where on the screen the viewer has clicked or which key has been depressed The underlying programme is organised in a tree structure of image segments with branches at selection points. The main reason for the adoption of this model in my view, is that someone who has invested substantial time in learning a programme that takes a specific approach to interactivity, may begin to believe that it is the only, the right, or the best approach" [1]
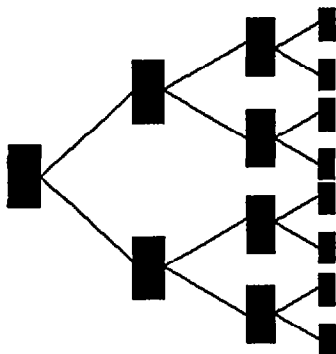
This schematic domination of the structure at the expense of content is vividly critiqued by Gareth Rees :

"These writers have all come up against the exponential problem, the combinatory explosion of the number of endings as the number of choice points goes up. With ten binary decision points, there are a thousand endings, with twenty, over a million....If every English-speaking person wrote a single section, together they could not complete all the branches on a tree with 28 decision points
(a story in Chinese would get one decision point further) .." [2]

And the absurd reductionism of such an approach satirised in an imaginary interactive Hamlet:

"1.[the battlements of Elsinore Castle]
HAMLET To be or not to be, that is the question
If Hamlet takes up arms against a sea of troubles, go to 3; if he shuffles off this mortal coil go to 2" [3]

In the Ship of Fools research production of 'Media Myth & Mania' [4] in 1993, we encountered the intrinsic problems of the tree form, which forces the participant to repeat a part of the logic branching on each replay and offers only pre-determine paths, constraining any real freedom of choice in the development of narrative. The immediate strategy we adopted to compensate for these constraints of structure was one of pastiche and humour, rapidly switching position and viewpoint to encourage the audience towards a critical handling of the material.

Typical "Tree" structure for hypermedia narrative

Designed as an interactive spoof game, using digital sound and photographic sequencing, it examines issues of power and control of the mass media by a multi-choice biographical

journey through the life of a media Mogul. The individual player identifies with the protagonist, where anarchic humour is employed in various parodies of contemporary biography . Based on this data the player makes moral choices at various life stages viewing the consequences in dramatised photo-romance style tableaux.

In consequence the piece was structured as a bifurcating interactive biographical narrative, with the player assuming the role of the either male or female "Mogul". The player chose between two action options at each level. There were more than 80 Interactive tableaux images in the whole game, plus accompanying sound, text and Quick Time movies. A mythic parallel universe of neo-classic futility interweaves the narrative at various key points as a metaphor for the ultimate emptiness of the scramble for media control. Three years on, the whole attempt now seems a trifle naive and already dated -such is the pace of development in ideas around this medium.

Even modifiying such a structure to reconverge the outcomes into a more manageable shape merely increases the mechanical and contrived nature of the narrative.

Inertia in artistic practice and commission is ensuring that , although interactive narratives will soon become commonplace through broadcast on cable, satellite, network or CD-rom , such forms as exist often rely on these simplictic or limited structures and also tend to remain mere extensions of prior spectator modes such as video, or cinema. The critical problems are compounded at present by the lack of achieved examples and further muddied by a tendency to lump all genres of interactivity under the same general heading.

Closure

An even greater problem is that of closure. one of the springs of narrative must surely be a simple desire to know what happens next? but in literature and cinema this is motivated by a close identification with the characters in the plot. In the Victorian novel character was destiny, in the Post-Modernist canon character slips into multiple responses and a sense of unknowable complexity. Closure is less important, but a necessary catharsis. Without such curves of emotional involvement and release, surely the narrative ceases to engage? Stripped of such possibilities does the narrative have a future?
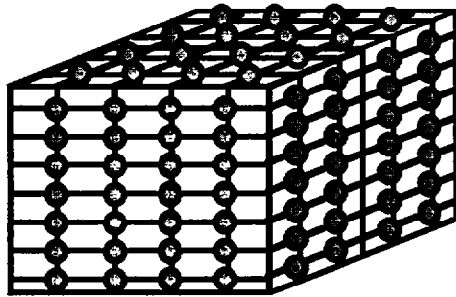
In an influential essay [5], Andrew Cameron has argued that most hyperfictions are for the above reasons likely fail unless our understanding of the audience's role is radically transformed.But his argument is ambiguous about future strategies for creating interactivity. He focusses on the computer game as a way forward, ignoring other possible forms of interactive narrative .

" It is here that we find the apparent disjuncture between the nature of interactivity and that of narrative. The moment the reader intervenes to change the story.. is the moment when the story changes from being an account of events which have already occured to the experience of events which are taking place in the present. Story time becomes real time, an account becomes an experience, the spectator or reader becomes a participant or player and the narrative begins to look like a game." [6]

New Structures

If the rigidity of the game seems a rather too trite a form for narrative in new media, perhaps there already exist other models which could offer the choices of interpretation and viewpoint which play such a strong artistic role as in the novel,

ney is literally mapped on screen. The user can bridge into deeper levels of the matrix through half images which correspond to a concealed matching half, which in turn starts a new narrative section. The images release ever greater levels of detail, h revealing hidden words and accessing richer combinations of sound and moving images, unfolding in the shape of a swaztika.

Three dimensional narrative matrix model

This matrix journey is an obviously appropriate one for computer narratives, mimicking the structure of digital memory and capable of extension into a hugely rich collection of fragmentary mini-narrative blocks. This approach has been employed by practitioners such as Malcolm Le Grice[14] and Bill Seaman[15] as a way of neatly side-stepping the strait-jacket of articulated narrative, allowing the audience to set the selection criteria of matching, but as in a card game, the choice of a particular image forces the computer to turn up a corresponding narrative fragment. Here we begin to approach Weinbren's responsive 'representation machine'.

Spatial analogues and immersive environments

While spatial analogues of narrative remain, as we have seen, one of the dominant forms in many game-like quest stories on CD rom , such forms are derived from the natural need for a participatory spatial environment in VR. In multimedia all the imagery is pre-created, in VR only the model is generated The audience creates its unique narrative journey on each engagement.

Although the Spatial metaphor is a prevalent form in many interactive narratives, as Cameron points out this is:

' more than just the change from a simple line to a more complex diagram or space, it involves moving from one kind of representation to another. ' [16]

The role of the artist can be radically challenged in the construction of such immersive narrative environments. The action of the artist/author begins to resemble the designer of a model and, although the artist may describe its properties in great detail, he or she is no longer author of the events set in motion by the audience.

The participatory aspect of audience as performer is implicate in most VR sessions Brenda Laurel has already explored this in her Place holder[17] experiments at Banff Centre in the early 1990s , where local Canadian Native Indian myths were incorporated into a participatory performance. Her extension of drama into Virtual Reality marked an important step in the development of interactive narrative forms. Participants could create their own stories within the broad boundaries set by the artist. Laurel's work fused improvised theatre with the cutting edge of VR simulation, combining sensor feedback for

arms and torso as well as hands and head. The participants could alter their voices electronically to match the mythic characters whose identity they assume, and can swim or fly through the recorded video landscape mapped onto a computer 3D model. The result may have relied on the improvisation skills of trained actors, but to some extent it allowed an audience access to a convincingly free persona.

Alternative models

If we try to accept, as Cameron contends, that games can be seen as coherent templates for new forms of interactive narrative, then even such commercial models as Sim City or Civilisation can become more than simply fascinating examples of complex simulation, through their use of a probability schematic to form the story .But, while it is true that the player follows formal and rule-based interactions for pleasure and stimulus, one can never achieve full immersion and engagement with the unfolding growth of the narrative. Playing such games, one is naggingly conscious of participating in an apparently reductive medium, one incapable of addressing the deeper existential concerns of art. This lack of resonance, seems precisely caused by the random shifting nature of its unfolding narrative and the absence of characters (although the causality of time and action is maintained).

Perhaps if we examine the development of early theatre, we do have access to quite other models as examples of social and participatory story spaces without predetermined outcomes. Such as are common in ceremony and ritual- symbolic affirmations of spiritual watersheds or transitions, precise narrative codings of resonant moments in a culture's development as well as in individual lives. A rules-based and compelling immersive experience , often embodying the primary narrative mythologies of adolescence, maturity and death, where the boundary between author and participant, actor and audience was dissolved.

In dreams as well a form of associative narrative occurs, seen as the 'royal road' into the unconscious by Jung and Freud alike. Narrative does appear to underlie our deepest mental structures -Jung has outlined the narratives of the collective unconscious and the process of individuation and demonstrated how ritual and rites of passage externalise such structures culturally.[18] Narrative as this type of spatial metaphor is ubiquitously implicit in every cultural expression : in plain mythology (Aboriginal Songlines) ; in the visual arts (sculptures of Richard Long) and everywhere in architecture.

A Gothic cathedral such as Chatres is the work of many hands, guided by a shared and often repeated vision. Its beauty is both in the detail and its overall shape , a metaphor of the natural universe in stone: forests , filtered light, soaring trunks, interlaced branches-immediately recognised, its architecture can be read by the worshipper either as a series of self-directed journeys or as a guided ceremony, for example by tracing the floor maze on their knees as a analogue of pilgrimage or the stages of the Latin Mass [19]. This image serves as a useful model for an immersive narrative environment -the only limits of agency are the fixed walls and the rules-based rituals of Christianity, where the mediaeval mind found a living enactment of religious narrative.

In the current Dreamhouse project[20], Ship of Fools were seeking to bring such an experience up to date, combining spatial, ritualistic and dreamlike elements. As in many other games we find ourselves in a house. However, here the house stands as a place of identity, a place that offers us experiences that reflect upon who we are. In the dream world , the house represents self, a space of memory and formation

Here it is a place where we tell stories, a narrative space. Stories which inter-relate to create a space of reflection. Our walk through house offers access to a number of rooms or experiences. Each has been designed by an artist reworking traditional storytelling structures around a particular mythology. So the house becomes an interactive theatre, where different tales are triggered and linked by audience exploration.

The bland domestic environment of a real suburban house (in fact a real Barratt's 'Show Home' in a suburban estate at Bradley Stoke, the negative equity capital of the U.K.) is the main interface. Through various devices-doors, windows, mirrors and other objects, gateways to the narratives of a mythological world are opened by the user. The piece focuses on the transmuting of known mythologies into more personalised or contemporary forms. Various rooms are appropriately matched to the different psyches of those involved in authoring the piece. Short connected narrative fragments can be awakened by the viewer through an examination of the interface environment A visitor to the house can interact with these presences and be caught up in their world .

The themes of intimacy and alienation are explored through non-linear narratives presented through such devices as multiple talking heads, each with their particular fragments, or through a hall of sleepers who can be individually awakened. The interactive house is a place of magic, permeable to other mythic spaces, but the narratives involved attempt to form a bridge between the personal and the political. Various sources of narrative structure and imagery have been adapted, ranging from Oedipus, Orpheus and Euridice, Theseus and the Minotaur, Icarus and Daedalus, Celtic domestic myths and legends, Biblical reference and stories and the modern mythologies of Science and Technology. The literature is not simply reworked, it is re-formed for the new medium, for example all the protagonists in the Theseus legend talk in poetic duologues, precisely counterpointed against each other, but only one character is audible at any one time. The audience must locate the story somewhere in the middle of the two monologues.

Daedalus The Sybil

Wings and rainUnder sea
A slow pageant spiralling to madnessA body rolls and shifts
I remembered falling : in strong currents
Stars or something worseAmbition and ecstacy curled in rictus
Smoking to the seaPicked by fishes

I connect nothingYour care, your mind
on the shore

The god's eye blank,The god turns away
vengefulashamed

The Sybil spelled in signsLocate your heart
hissing, urgentopen your armoured closeness
engraved in madnesslocate a centre

At Cumae I raisedBuild around the flame
an architecture of atonementin tender stone
For my deep neglect

At Cumae I weptand calculate its beauty

Conclusion

In speaking of the pleasures and engagement of VR environments, Janet Murray of MIT Media Lab identifies "Immersion, rapture and agency"[21] as the key requisites of interaction in virtual space. While these certainly identify the pleasures of

the medium, they do not of themselves create the complexity of meaning found in the fixed structures of traditional forms. Char Davies's Osmose [22] is a case in point, where an audience can float through a semi-transparent virtual world viewing natural processes , gliding effortlessly through trees, following the rising sap. It is a beautiful "tableau vivant", with more in common with landscape painting than narrative form. In the search for narratives without predetermined scripting, I believe that through use of independent agents, artists will increasingly be led towards the granting of autonomous agency to individual characters-at present more a pious hope than a reality.

Laurel 's researches in interactive narrative led directly to the Oz project [23] at Carnegie Mellon University Drama department , which used live actors and directors to test Laurel's rules-based coda for dramatic interaction in virtual space-the ostensible reason was cost, but perhaps encoding the complex rules of drama and character are well beyond any Artificial Intelligence programmer's ability at present. The end of such simulations must be in convincing forms of artificial life and the complex coding of autonomous agents using genetic algorithms. At present the state of the art in actual programming seems to be at the level of Carnegie Mellon's Lyotard [24]interactive cat project or MIT's attempts at programmed behaviours, exemplified by Bruce Blumberg's virtual dog in the Artificial life Interactive Video Environment[25], where a computer generated ball-fetching creature is mapped onto a mirror image of the real user's environment.

In its small way Andrew Bourne's "Trees" [26] too uses a measure of programmed behaviours in the form of agents representing the two sides in a road building dispute. The audience can intervene or remain passive , changing the outcome each time. The interventions will prompt the writing of a unique poem, concatinated from fragments, which comments on their commitment to the cause at the end of the piece.

Only through the open minded commitment of artists , writers and programmers who are prepared to explore the full expressive potential of the medium can we even begin to see a meaningful artform emerge. The nuturing of environments where such collaborative working can blossom remains the essential pre-requisite of success.

_ Martin Rieser 1996

References

1Grahame String Weinbren, Mastery-Computer Games, Intuitive Interfaces and Interactive Media, Leornado V28 No5, ps403-408, 1995
2Gareth Rees Tree Structures on the world wide web, website
3Gareth Rees Tree Structures on the world wide web
4Ship of Fools group, Media Myth and Mania, From Silver to Silicon (CD-Rom), Artec London 1996
5Andrew Cameron,Dissimulations-The Illusion of Interactivity , Millennium Film Journal, Spring 1993, New York
6Andrew Cameron,Dissimulations
7Robert Coover, The Babysitter, Pricksongs and Descants,ps 206-239, New American Library, Penguin,1970
8Grahame String Weinbren, Sonata, Insitute of Contemporary Arts, London, September 1994
9Grahame String Weinbren, Mastery-Computer Games, Intuitive Interfaces and Interactive Media, Leornado V28 No5, ps403-408, 1995
10Undergraduate student work for Graphic Design Honours degree, Faculty of Art, Media and Design, University of the West of England, Bristol, 1996
11Undergraduate student work for Time Based Media Honours degree, Faculty of Art, Media and Design, University of the West of England, Bristol, 1996
12Jon Dovey, The Toybox, Cd rom,Video Positive 1995, Moviola, Liverpool

13Undergraduate student work for Graphic Design Honours degree, Faculty of Art, Media and Design, University of the West of England, Bristol, 1996

14Malcolm Le Grice The Story Telling machine, Public Lecture, Watershed Media Centre, Spring 1996

15Bill Seaman, CAIIA PhD seminar, Newport College of Art and Design, Spring 1996

16Andrew Cameron,Dissimulations

17ISEA93 conference, Minneapolis

18Carl Jung, Man and his symbols,,1978, Pan Books, London

19Labyrinths-Ancient Myths and modern uses, Sig Lonegren, Gothic Image Publications 1991

20Ship of Fools group, Research project on interactive narrative and new media at the Faculty of Art, Media and Design, University of the West of England , Bristol 1994-6

21Charles Platt, Interactive Entertainment , Wired, September 1995, p63

22 ISEA95 in Montreal at the Museum of Modern Art

23 Brenda Laurel, Computers as Theatre , Addison Wesley, ps188-192, 1991

24 University web site

25 Charles Platt, Interactive Entertainment

26 Andrew Bourne was an undergraduate student at the University of the West of England, the piece was completed in 1995 while on placement at Hewlett Packard's European research division