

Introduction

Aspects of Interactive Dramaturgies: Thematic Frame and Authors' Contributions

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Interactive, multimedia programs differ in a wide-reaching way from the classical narrative media of theatre, film, and television. The way they structure their form and contents and the strategies they employ for conveying it are all subject to their own rules and regularities. Nonetheless, they do adhere to dramaturgic principles that, on the one hand, can be derived from the most diverse of narrative traditions and rituals, but, on the other hand, have to be invented and defined anew.

Simply from the distinct characteristics of interactive communication, it can be deduced that interactive, multimedial works which break with linear narration are automatically also subject to completely different dramaturgic regulatory principles. To date, however, a dramaturgy of interactive media has received very little attention and is hardly reflected in the scientific literature.

Interactive Storytelling/ Interactive Dramaturgies

By contrast, the concept of *interactive storytelling* has become very well established, especially in scientific circles. It is interesting that, in contrast to the classical narrative as embodied by theatre, film, and literature, an expanded concept of narration was introduced: *interactive storytelling* is applied not only to interactive works of fictional character, but also to other genres such as e-learning, edutainment, cultural learning, and even to intermedial communication in exhibitions and museums. In this way, interactive storytelling also encompasses the conveying of knowledge, the reporting of facts, and their didactic presentation, in other words, narration in the widest sense of the word. Accordingly, a dramaturgy of interactive, multimedial works finds its logical starting point here.

Expanded Dramaturgy

A first theory of drama arose in Greek antiquity. Drama, Greek for deed or action, designates both the special form of narration and its theatrical rendering for an

audience. The drama or tragedy arose from strictly formalized, religious rites. This philosophical-religious origin likely had a defining influence on the dramaturgic canon of this epoch. The venue and length of performance, the sequence of acts, the structure and climax were all precisely predefined.

In his *Poetics*, Aristotle provided not only a foundational work of these dramaturgic principles, but also passed on a book of standards to subsequent generations. For centuries it had an enduring influence on the classical narrative tradition and even today still forms the basis for contemporary narrative patterns, such as those in film. The question of what constitutes the success of these dramaturgic conventions cannot be reduced just to way they structure a narrative or the way they develop the acting characters. Aside from the way it grants form to contents and time, dramaturgy aims above all at creating an effect in the listener and viewer. It is the decisive instrument of communication for binding the recipient to the medial event.

In its basic properties, every communicative act is subject to comparable regulatory principles: its elements are structured, organized with regard to form, content, and time, and communicative in character, i. e., aimed at creating an effect. Dramaturgy, understood as a formative, organizing, aesthetic, and communicative principle, cannot be defined in terms of any specific narrative form or cultural tradition of narration. Instead, an extended concept of dramaturgy presents the opportunity for encompassing new forms of narration and information transmission. The term *interactive dramaturgies* stands for these numerous dramaturgies that had previously been excluded from the traditional concept of dramaturgy.

Just the history of theatre gives ample evidence of the departures made from classical dramaturgic positions and the constant enrichment of tradition provided by new forms. By contrast, the history of film shows that the pioneering cinematic dramaturgies which arose out of the medium and its special perspectives were neglected in favor of traditional narrative forms and lost to obscurity. Herein resides a potential that has yet to be fully exploited.

Group Reception/ Individual Action

The elements of an interactive dramaturgy are complex, especially since they individualize the act of perception, while at the same time addressing large user groups. The originally *one-way communication* from work to recipient group, which in the case of film took place in rooms and times specially set for this purpose, is transformed into *two-way communication* between work and actor within an open temporal structure. Group reception is replaced by individual reception, and the recipient becomes an actor. Where the viewer had learned over generations how to decode the work and its form, this is now joined by the decoding and active operating of the interactive code. The latter is defined by operating instructions and game and user rules and must to be learned linguistically and visually on the basis of new metaphors. This demands new forms of competence from both the author and active user.

Space and Time/ Linearity and Segmentation

Space and time, two important dramaturgic components, are related to one another in completely different ways in linear and nonlinear media. Whereas film, theatre, and television provide the viewer with a temporally self-contained unit that can thus be grasped as such, it is the task of an interactive dramaturgy to make an appropriate set of tools available on all levels of communication that makes possible individual and temporally flexible navigation.

If linear media are one dimensional and thus constructed along a temporal axis, interactive media possess a complex, virtual geography and abstract spatiality, which the user has to actively assimilate, in various directions, on the basis of dramaturgic pre-givens, rules, and symbolic levels. For this reason, analogous to Ariadne's thread, many interactive works provide the player with a reconstruction of the path he or she has already traveled.

The active reception situation of interactive works demands specific dramaturgic means, which are distinct from linear models. Where linear narration can build upon the climax of a self-contained, dramaturgic arc, in order to move the plot forward in a logically stringent manner and captivate the interest of the viewer, the segmentation of interactive works presupposes dramaturgic elements for each segment. The

overarching, action-related development here can only be explored step-by-step on the basis of the user's own performance, which is a source of constant motivation. For this reason, the quality of a given interactive dramaturgy is especially recognizable at the points of transition between different segments and levels. Comparable to a good television series, there are necessary impulses at the so-called nodes that are intended to stimulate renewed uses.

Multi-User Platforms

Moreover, the network among user groups that online media creates opens additional dimensions of exchange and competition on an extremely abstract level. In addition to the development of contents and characters or avatars, these programs are chiefly concerned with the development of a conception of dramaturgic rules that, in an open multi-user system independent of time and location, provides a binding operational context for an unknown user community and also wins their acceptance. Communication in these systems is defined by a high degree of anonymity and abstraction that practically presupposes the formation of interculturally acceptable metaphors and codes.

Narrative Perspective and the Way of Looking

The fact that the user is directly addressed qua actor, i. e., as the motive force underlying the unfolding of action, also transforms the role of the narrator in numerous interactive applications. The nonparticipating, detached observer of classical narration now becomes a mediator: she guides, prompts, comments. The narrative I or ego, comparable to the subjective camera, coalesces with the user or player. Distances are suspended; the player/user now becomes the actor.

The way of looking changes, too. Through the variable positioning of a virtual camera, the user can determine the part of the image viewed and line of sight taken toward events and submerge himself in the action. This mode, initially common in games, is now increasingly found, as an exploratory way of looking at things, in artistic and scientific works.

Polyform Concepts

Interactive media are also practically predestined to develop concepts that go beyond the boundaries of any particular genre, target group, or medium: one

has at one's fingertips texts, photos, illustrations, scientific graphics, comics, films, and videos as well as all components of sound and language. This allows the presentation of a given topic from completely different perspectives – according to areas of interest or preference, abilities, age- and development-based criteria, complexity and level of elaboration or as comic, game, or information. Different access options and repeatability are key factors in this context.

Properties of Interactive Media

The most important properties of interactive media lie – in contradistinction to linear media and their classical dramaturgy – in their nonlinear structuring of contents, a transformed mode of information access, and the interaction between man and machine. In concrete terms, these special features can be represented in terms of the following characteristics, which will be taken up and elaborated upon in the context of various topics in different chapters of this volume:

Nonlinearity/Spatial Orientation

Interactively conveyed contents are organized segmentally and nonsequentially. The principle of linear alignment is replaced by tree structures or geographic-spatial patterns and coordinates. Prototypes of spatial organization are found in models of nature and geography and in those of science or architecture.

Pearls and Nodes

Acts are replaced by substantive building blocks, i. e., by pearls or nodes, which represent complex units of information. Pearls may comprise tasks and instructions, for instance, in games or in instructional programs. *Cookies*, i. e., positive responses or signs of agreement, are often offered for the successful execution of these tasks, so that a sense of achievement provides motivation for continued action. The move to the next node or pearl may also be tied to certain conditions. One often finds a choice of transitions to various different nodes or levels at the exit point from any given node.

Hypermedial Structures

Hypermedial structures allow for a very individualized, interest- and knowledge-oriented access to the most varied substantive levels of a complex work. This user-controlled access to information is of particular

significance for open, continuously growing systems such as the Internet.

Navigation

The user is provided with instruments that facilitate orientation. As a rule these are *graphic* or *acoustic metaphors* and signs, which refer to specific spatial levels or program segments or are associated with specific information sequences. These metaphors, often presented as buttons, may be integrated as hidden elements that first become recognizable through specific user actions.

Interface

The triggering of changes in the program occurs by means of different interfaces and input points of the most varied complexity. For example, this takes place by means of traditional apparatus such as the keyboard, mouse, pen, touch screen or other tactile devices, or, on the other hand, by means of voice recognition and eye tracking. In spatial settings, sensors are often employed for recognizing movement, distance, or sound parameters, or for determining spatial coordinates. Cameras are used for registering visual properties or changes. Intelligent, chip-based interfaces contain data, which may selectively influence the access to specific program levels or further-reaching actions.

Interactivity

Program access is premised upon interaction with a machine while using the appropriate interface. Interface, substantive complexity, abundance of data, and extensive programming are all key factors in determining the degree of interaction and the involvement of the user.

Individual Reception and Action

Interactively prepared contents are, in a way comparable to reading, generally received by an individual. Choices, repetitions, jumps, interruptions, and subjective time are certainly here the most essential traits that distinguish individual communication from a linear reception that often takes place in groups.

Multimediality/Intermediality

Interactive programs are open to combination with the most varied modes of medial expression. Dependent

upon their material objective and concepts of communication, they can combine all kinds of visual and acoustic contributions. In exhibitions and museums, interactive multimedial programs often take on special, complementary functions, whether it be the more detailed explanation of the exhibits and the fields of exhibition or as illustration of principles and facts. Contents are disclosed here in an overall intermedial context.

Networking and Openness

A further essential trait of interactive online media is their networked character and virtual openness. In contrast to self-contained media systems such as film and traditional television, but also CD-ROMs, DVDs, and DVD-ROMs, hyperlinked media offer not just the potential of exchange between numerous users, but also of collaborative production. Individual communication is joined by group communication. Further qualities include access independent of time and locale, and the plasticity with which contents can be supplemented, extended, and modified.

Hybridicity

The qualitative development of the presentational and performance abilities of digital media increasingly opens up opportunities for the interpenetration of real and virtual situations. The combination of the CD-ROM as a self-contained system with the open Internet is designated, for instance, as a hybrid medium, where both vehicles get benefit from their specific advantages. Applications in museum and exhibition design that allow the visitor to experience completely new spatial situations at the edge between the real environment and virtual contents, however, are far more complex and interesting. Displays, sometimes extensive in size and specifically produced for this purpose, deepen this impression of the interaction between material and data space and create *immersive experiences* for the viewer.

The Authors and Their Contributions

The authors in this volume have long been specialized in the area of interactive media. Their particular approaches and the different thematic areas they pursue underscore the wide application spectrum already indicated above.

Part I, *Multimedia/Interaction/Dramaturgy*, takes up interdisciplinary topics of interactivity, narrative tradition, and its influences. In Chapter 1, “Elements of a History of Interactive Dramaturgies – Cultural Fingerprints in the Digital Net,” Heide Hageböling investigates the dramaturgic specificities of different narrative traditions, ritual forms, and artistic representations as the preliminary forms and precondition for a multimedial interactive dramaturgy. In Chapter 2, “The New Horsemen of Apocalypse,” Bernard Allien advocates giving greater attention to drama as a communicative method, especially in the area of e-learning and knowledge transmission. Peter Krieg – in his chapter on the “Dialogue with Machines: Can Computers Be Interactive?” (Chapter 3) – takes a critical look at the qualitative requirements for a machine to be capable of interaction.

Part II, *Cultural Learning*, takes the communication of cultural contents and values as its subject. Ranjit Makkuni discusses the wide-ranging set of topics involved in intercultural learning and, for this purpose, makes available materials and concepts from his already successfully staged multimedia exhibition “The Poem Gita-Govinda: System Concepts for Cultural Learning Documents” (Chapter 4). Titus Leber’s three-part CD-ROM series “Interactively Setting in Motion the Wheel of Law – Telling the Life and Philosophy of Buddha. The Mural Paintings of the Temple of the Emerald Buddha in Bangkok” (Chapter 5) and the CD-ROM of the Nofrontiere group “In the Place of Coincidence: Archaeology of the Unconscious – The Sigmund Freud CD-ROM” (Chapter 6) represent two further examples of interactive storytelling about cultural and scientific topics. Whereas in Titus Leber modes of cinematic narrative are linked with cinematic experience, Nofrontiere has created a new and sensitive language of images for visualizing the Freudian theory of the unconscious.

Part III, *Museum & Media*, presents two projects. In “Setting the Stage for Interaction: Digital Craft and the Museums of the 21st Century” (Chapter 7), James M. Bradburne provides a media- and communication-based history of the museum, with focus on the active and interactive incorporation of the visitor. In Chapter 8, “Interactive Narrative and Integrated Applications in a Museum,” Kenneth Hamma presents the integrative media and exhibition design conception of the J. Paul Getty Museum in Los Angeles.

Part IV, *MediaTecture & HybridSpaces*, concentrates on spatially oriented projects. Ron MacNeil presents forward-looking developments in intelligent

spaces and hybrid environments in his pilot projects “*metaField: Interactive DataSpaces*” (Chapter 9). In “The Crossing: Living, Dying and Transformation in Banaras – A Multimedia Cultural Learning Project for the Next Millennium” (Chapter 10), Ranjit Makkuni develops exhibition design conceptions that encompass augmented reality, gesture icons, and telerobotics.

In Part V on *Gaming & Interaction*, Claus Pias develops a dramaturgy of different types of computer games in his “Action, Adventure, Desire: Interaction with PC Games” (Chapter 11). In his paper on “Games of Gods – Black&White: The Omnipotence of the Player” (Chapter 12), Florian Stangl presents one of the most well-known of interactive games, created by Peter Molyneux. Stangl focuses on the way in which the player exerts influence on the development of the action.

Part VI, *Hands@Film & Television*, takes up the forms of interactive film and television. In “Interactive Movies: Practical Experiments with Parallel Video Streams” (Chapter 13), the artist Chris Hales presents his experiments in interactive cinema, which range from classic branching to the attempt to tell stories on the Internet through parallel images. “TypoToons™ & TattleToons: Children’s Interactive Television” (Chapter 14) represents two new, intermedial television formats from the developer and director Frank Alsema that interlink the Internet, online gaming, and television transmission.

In *www.Literature & Stories* (Part VII), Judy Malloy presents various literary approaches of an Internet-

based literature, including a piece with collaborative authorship in her chapter on “Interactive Stories: Strategies and Models of Interactive Dramaturgy – Writing Public Literature in an Evolving Internet Environment” (Chapter 15). “Click and Roll: ‘Paul Is Dead’ – The Rock and Roll Murder Mystery” (Chapter 16) is one of the first interactive series to go online successfully. Its director, John Sanborn, presents the conception and structure of the series.

The final part of the volume, *Interaction.Content.Design.com* (Part VIII), takes up the design, visual language, and conception of interactive programs. In Chapter 17, “Frames: At the Edge and Beyond – Constructing the Emerging Languages in Computer Mediated Narratives and Communications,” Alok Nandi – who, as Art Director at Casterman in Brussels, was responsible for interactive comics for several years – investigates the narrative structures, visual language elements, and dramaturgic regularities of interactive comics and *band dessin e* on the Internet. In his “The Circular Page: Designing a Theater of Choice” (Chapter 18) and “Write a Story as a Building: Interactive Media Content Design” (Chapter 19), the author and conceptionist Michael Utvich makes two pragmatic texts available to authors and designers of interactive programs. These two texts revolve around the methods of conceiving and developing multimedial applications, on the one hand, and a comparative presentation of various interactive media and their specific requirements, on the other.