Patterns of Recollection
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The Documentary Meets Digital Media

Åke Walldius
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When writing about documentary film, problems of definition inevitably arise. Choosing to investigate the meeting of such a diversified cultural phenomenon as documentaries together with an even more nebulous social and technological entity, that of digital media, accentuates the problems of linguistic and normative frameworks. However, since the beginning of the eighties the literature on non-fiction film has grown considerably, complementing ethnographic and journalistic contributions with more general theoretical and historiographical perspectives. In the turbulent world of information-technology engineering, the understanding of the dynamic properties of electronic documents is being extended through empirical research focused on the preconditions for communication as a means for social participation. In this growing body of research, there are fascinating parallels to be drawn between the worlds of documentary filmmaking and digital media design. The former may be seen as driven by personal pursuits of social purpose and artisan traditions while the private and public agents of the latter have a more institutionalised concern for popular demand and sustained market shares. Even if there will be many opportunities to refer to specific definitions from the two fields throughout the inquiry, my main effort will be to identify and test a conceptual framework that will focus on the parallels between documentaries and digital media.

Writing from the perspective of Cinema studies, one of the obvious ways to approach digital media is to investigate how concepts and theories that inform digital media practices could be applied to the theories and practices of filmmaking. If any of the many orientations within Cinema studies shall be able to demonstrate that it has substantial contributions to yield to the dynamic field of digital communications, it will first have to show that it can learn and apply some important
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lessons from that field. For practitioners of non-fiction film, there is a strong interest in the practical opportunities and consequences of digital technologies. In the Cinema studies literature however, the interest for the new technologies has, at least until recently, been more directed towards general theoretical aspects than towards empirical inquiries about impact, geared to answer pressing questions from the practitioners in the field. If we look at the research literature generated by the departments of Computer Science and their related departments in the social sciences, techniques and examples pertaining to film and television are mentioned quite frequently, but very seldom with a systematic argumentation based on film theory. The references to documentary film theory is virtually non-existent. Thus, the joint interests of filmmakers and scholars within the field of Cinema studies has not so far resulted in any shared research agenda in the established institutions of digital media research.

In this context, a short presentation of the practical background of this study may be appropriate. In 1995, the Centre for User-oriented IT Design (CID) was formed at the Royal Institute of Technology in Stockholm. Its aim is to study and promote methodologies for user-oriented design in an environment that supports interdisciplinary research by bringing users, designers, and researchers in close contact with each other. Based on my earlier work in labour market research, my dissertation project was accepted as a doctoral project at the centre in 1997. While reframing the project to fit the research agenda of this new environment, my own set of questions – derived from practical media work, Cinema studies, and Computer Science – encountered an even more varied set of questions articulated by IT users and scholars from many different backgrounds. As this new group of colleagues and readers prompted me to accommodate a wealth of new perspectives, the emphasis of the study has changed accordingly. The importance of carrying out design studies in close contact with end-users of particular design artefacts is one of the lessons learned. This is a theme that will reappear throughout the study. But it turned out to be an even greater challenge to try to identify the common vocabularies of Cinema studies and the branches of Computer Science concerned with user-oriented studies of moving imagery. In this respect, the generous but demanding environment at CID has prompted me to clarify the usefulness of documentary film studies, not only in the eyes of fellow researchers, but in the eyes of diverse groups of users of IT media artefacts.
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The conceptual framework I have found most challenging to bring into the realm of Cinema studies builds on the two concepts of User Orientation and Pattern languages. In the first part of my study, I will present these frameworks in a minimalist manner with the prime aim of relating them to their Cinema studies counterparts, Reception and Genre studies respectively. I will not claim to break new territory in these background chapters on theory. On the contrary, my point is to show that these concepts and assumptions are well established within their respective fields of origin. What I will try to do however is to combine the different frameworks in a convincing and useful way. The Computer Science concepts of user orientation and pattern languages will thus be integrated into a genre perspective which is relevant to documentary filmmaking. Not until this integrated framework has been applied and tried out on a collection of examples compiled in Part 2, will the theoretical implications be discussed in ways that transcend the established use of these concepts. This empirically motivated discussion will be carried out in Part 3 of my study.

The conceptual framework necessary to make sense out of the emerging global informational networks of today are not constrained to the fields of Computer Science, architecture and media studies. Some of the most revealing accounts of these networks have emerged in the fields of sociology and political science. What I have found important in the perspectives of user orientation, patterns languages and genre-theory is that they all resonate closely with the broader patterns identified by sociologists and economic historians writing about contemporary society. These broader patterns of social and economic institutions will not be presented and discussed as such. Instead they will be referred to as underlying patterns of concern, giving direction and meaning to the concepts of user engagement, pattern recollection and genre adherence.

The technological questions relevant to my study will initially be presented in the same indirect and deferred way as the theoretical underpinning. The most pervasive technical traits of the digitalisation of moving images, as reported by some of its influential researchers, will be briefly described in the Introductory part 1, then further detailed in the compilation of Examples in part 2, finally to be discussed in their broader historical context in part 3. Again the motivation is a need for conciseness and empirical context to reach tangible, practical insights.
Introduction

The title of the study reveals my special interest for a certain kind of films that I have chosen to label the genres of recollection. Deliberately, this is an open category that approximates the domain of moving imagery for which my conceptual framework is relevant. To clarify it in terms of accepted genre headings, the closest alternative would be History programming, a category of programs that today has reached the level of autonomy needed to get individual channels entirely devoted to it. Another example is the Current-affairs genre that continues to be a prestigious component in both public service and private television networks. As I will exemplify in Part 2, documentary filmmakers have had an explicit urge to see their films as historical documents in a deeper sense than that of journalistic accounts. The selection of examples also testifies to my personal fascination with the longevity of the genre of City Symphony films, films that make the City the scene of the affairs and mindsets of their time.

Specific domains of application need their own sets of tools and equipment. I will try to be specific about the limited applicability of the conceptual framework of pattern-informed genre-analysis that I propose. On the other hand, I will argue for the assumption that the genres of recollection are not just any set of genres. They have a certain centrality, both according to what filmmakers have been occupied with during the last century, and in terms of the social and political relevance of their themes. In terms of themes, those that highlight contemporary historical processes will be seen as a rough outer boundary for what I will consider belongs to the genres of recollection. More specifically, I will consider the life of the City as being at the centre of this broad and tentative category. The selection of examples singled out for analysis in Part 2 will all be highlighted in temporal and spatial dimensions that refer to this provisional categorisation.

In terms of period of production, the examples in the study range from those produced in the thirties to those produced in the last couple of years. The times and spaces they picture will be presented in sub-genre labels such as Personal diary, Professional biography, Workplace journal, and City chronicle. The patterns of social change that underlie and inform both the selection of examples and the method of investigation may be discerned in a close reading of this categorisation. The films all deal with biographies of individuals as they are interwoven with the histories of their workplaces, neighbourhoods, local and global communities. Already in this ordering of spatial scope, there are questions of shared concern implied. What does the film tell us about the life in and around the City? Which are the
networks depicted that link the individual to his or her different spheres of identification? Which of these networks are growing stronger in influence and which are losing their traditional grips? To be able to recognize these patterns of dynamism in the films I will try to make my own frame of reference as explicit as possible. However, as I have already declared, my aim is not to discuss the underlying patterns of social change as such. Instead, first, I will refer to them as they are explicitly referenced in the films. Secondly, I will assess my conceptual framework in terms of its strength to make these patterns visible in a consistent manner. Of course, this assessment also has to entail considerations about the limitation of my framework, in terms of being applicable only to this specific category of films.

The discussion about theoretical and empirical consistency of the proposed framework will dominate the last Part of my study. After having assessed the framework’s usefulness as an analytical tool, its usefulness as a design tool is considered. One fruitful way of testing the practical viability of design patterns is to ask what they have to say about one’s own institutional environment. This will be done in the chapter discussing the last of my examples, the CyberYard project at CID, an ongoing workplace networking experiment. Two other examples also deal with the university as a crucial intersection in the emerging web of global information networks, THE DAY AFTER TRINITY and A RANDOM WALK THROUGH THE TWENTIETH CENTURY. These examples have another theme in common with the CyberYard project, that of engineering as performed within publicly funded research institutions. Aside from giving intriguing insights into the academic environment, these examples map the interplay between the university and its geographic surroundings. And the pattern-informed framework is exactly aimed at highlighting such spatial interrelations as they are depicted in the films. As a consequence, there is one particular group of readers I address directly in these chapters, those who are also writers/ producers in the genres of history programs. What I hope is that these chapters will be useful both for producers, directly engaged in depicting concrete traces of historical change, and for interpreters concerned with new methodologies of media history and critique.

By viewing historically informed workplace programming as an emerging (group of) sub-genre(s), some concrete questions about program designs can be articulated: What kinds of pattern languages support creative variation in workplace programming and what kinds promote streamlining? What models of pattern usage support dialogues on design with end users and what models divert them? The
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act of considering this kind of programming as a genre-in-the-making is also an expression of a set of social values. This set of values has informed the study as a whole and it will be referred to explicitly in the concluding chapters. The emergence of workplace networks with new kinds of links to the university has the opportunity to realise many of the social and cultural prospects associated with digital media. They represent a media environment in which the issues of autonomy and local variation, raised by the pioneers of hypermedia and the Internet, have to be reviewed and reconsidered. These networks also constitute an explicit challenge for the sponsors, researchers, lecturers and students of media studies. They provoke questions about prospective usergroups and where, when, and how these groups will interact within the emerging global networks of digital media. These are the questions discussed as issues for further research in the concluding chapter of the study.
Part 1

Conceptual Framework
User Orientation

User orientation as a basis for non-fiction film studies

The production facilities for moving images are undergoing a profound technological shift that forces us to rethink much of the conventional knowledge about the cultural context for film and television. Far-reaching expectations about digital television, multimedia, and videoconferencing have spurred massive investments in a wide spectrum of digital technologies that are now, slowly but steadily, altering the material preconditions for how moving images are produced and used. In order to get a systematic understanding of this process, scholars from different disciplines are turning to the perspective of user orientation as a common discursive platform. Before examining the digital technologies that will have the most pervasive consequences for the cinematic media, I will introduce some of the relevant assumptions of user-oriented methodologies as a cross-disciplinary approach for media studies and design.

User orientation, as the term is used in information technological (IT) research, can on a very general level be understood as the IT industry’s long-term concern for customer satisfaction. In respect to research traditions in the field, with an international and interdisciplinary scope, the broad direction of Computer Support for Cooperative Work (CSCW) has had yearly conferences, alternating be-
User Orientation

tween North America and Europe, since 1989. It is important to note that as the electronics, telecommunications, and computer sectors of industry have been research-based from their inception, their marketing efforts have in many cases been more closely integrated with their technical efforts than in other industries. Although some of the procedures of the user-testing laboratories of today may show parallels to the show rooms of Hollywood marketing departments of the fifties, it would be a grave misrepresentation to reduce the motivations and methodologies of user-oriented research to a narrow concept of marketing.²

As the hardware, software, and service sectors of the computer industry have grown more closely integrated with products and services of the electronics, telecommunication, and media industries, their conceptualisation of “the user” have shifted accordingly. The relation between the IT implementation and “the user” have evolved from an abstract notion of single-user interfaces to a multifaceted understanding of collaboration between multiple users via a set of IT devices that respond to the shifting needs of the users in non-intrusive ways. The user is no longer seen as an end-receiver but as an active protagonist involved in an activity which he or she has strong needs to control throughout its duration. The methods for comprehending these needs from the researchers point of view involve a range of procedures, such as user panels, participatory observation, in-depth interviews, and active participation by groups of users in the full cycle of development, from preliminary conceptualisation to on-site testing. As far as instrumental devices used during the development cycle, the user-labs are complemented with the building of mock-ups and prototypes which are then tested for their functional, economic, and aesthetic compliance in actual end-user environments.³

The extended integration of IT services into actual workplace settings has led to a clearer recognition of the social organisation as a determining context for the overall performance of IT services. Important contributions to this growing recognition has been made through what has been termed “the Scandinavian IT Design Model” in which the use of low-tech mock-ups and early design sessions with end-users have been key elements of the approach.⁴ The increased need to understand the temporal aspects of systems-interactions has introduced the use of scenarios for assessing the dynamic social and cultural qualities of prototypes under development.⁵ Thus, the increased awareness of the social dynamics of IT services can be seen as a general characteristic of current user-oriented methods. Studies that focus on the social dynamics of the development cycle represents a special
case of such an awareness for temporal complexities. But if the services of a completed system are to accommodate the needs of a complex cultural community, an awareness for the social and temporal aspects of its implementation phase is also of critical importance. Today, the understanding of the fundamental intertwining of social, cultural, and technological aspects of IT services is expressed in the recognition by many IT research centres that the humanities may have an important part to play in future interdisciplinary IT research. As an example of the institutional context, in which research-centres such as CID can be a part, the USERSAWARD project can be mentioned. Its aim is to develop a certification program for enterprise applications, based on the principles that inform the worldwide TCO'95, TCO'2000 certification programs for computer hardware. USERSAWARD is financed by two of the national funds for workplace related research, it engages two of the six user organisations that sponsor the centre, the HCI departments of three universities, and a network of 50 industrial trade union representatives that conduct user satisfaction surveys on the enterprise applications used at their respective workplace. The deep intertwining of cultural, social, economic, and technological aspects in projects of this scope provides a strong motivation for why new perspectives on user-orientation should be brought into the realm of media studies.

The increased physical eminence of user interaction is one of the most salient qualitative shifts caused by the gradual and accumulated introduction of digital technologies in the media. Traditionally, in the environments of movie theatres, clubs, and seminar rooms, the audience interaction with the moving image has meant an attentive sharing of the modes, thoughts, and feelings of the originators of the film. During the cinema’s nickelodeon era this interaction was accompanied by an overt physical and expressive participation on the part of the audience. In the age of television the phenomenon of zapping, and programming the home video tape recorder, has marked a growing instrumentation of the physical aspects of interaction. The digitalisation is now accelerating this process towards a self-conscious instrumental user interaction in new forms that make moving images useful and enjoyable in contexts which are radically different from the theatres and the home sofas. In industrial and public service networks, employees and citizens are furnished with up-to-date news geared to supporting their more or less autonomous decision-making. In schools and academia, moving images from CD-ROMS and Internet archives are used by lecturers and students in a wide spectrum of learning and research contexts.
To the extent that these opportunities of a purposeful, instrumental interaction with the media can be achieved, the content providers have, technically as well as economically, the opportunity to involve new groups of users in new contexts of use. During the twentieth century the media technologies of radio, film, and television have effectively transformed the concept of culture from a local traditional engagement to an international mass marketed commercial engagement. On the most general level this transformation can be characterised in terms of secularisation and popularisation. Following the cyclical patterns of de- and re-regulations over the last centuries, local and national institutions have step by step internalised operational procedures and values of the market oriented private enterprise. According to one line of thought, central to developers of new IT services, the current digitalisation of established media channels can entail a broader and more active participation with the content on the part of the users. An example of how such an involvement can be provided for is the allowance for (very) different kinds of user-groups to tailor their own networked news services with added opportunities to archive and respond to individual news items. In contrast to this constructivist attitude, there is a more sceptical line of thought, dominant in the critical debate within the social sciences and the humanities. According to this line of reasoning, the shallow relationship of zapping, brought about by the preoccupation with quantity on the part of content providers, will degrade the quality of user participation with media contents into a cursory relationship of distracted browsing. In this perspective, the tailoring of news runs the risk of becoming a device for self-censorship which will aggravate the fragmentation of public debate and cultural exchange. Typical examples of this kind of fragmented use is found in the entertainment sites of the World Wide Web where a narrowly conveyed sensationalism seldom reaches beyond the attractions of technological gadgetry.

What is at stake here for the local and national cultures is not just issues of recreation and cultural identity. As with radio, film, and television, the digital media will permeate the social resources of creativity, learning, and entrepreneurship. Thereby, it will influence the long term social and economic wealth of their respective audiences. In the face of the wide scope of these prospect and threats, it is important that an awareness of the tensions between these two lines of thought are maintained when analysing concrete, illuminating, and explanatory examples. To my mind, this is one of the central challenges for the humanities in the digital age, regardless if their main focus is that of Cinema studies, Journalism, Literature,
or Cultural studies. All these fields of expertise have important contributions to make that will enrich the results reached in ethnography, linguistics and cognitive psychology, disciplines which are already present as a part of the IT research communities.

The instrumentation of user interaction characteristic of the networks of digital media thus entails both opportunities for increased variation and threats of streamlining local cultures. One way to assess the promising opportunities in a meaningful and compelling way is to contrast them with the less promising alternatives. A key element in such a contrasting, interrogating perspective is the concept of end-user participation. A humanities approach towards the prospects of digital media could begin by asking: to what extent new groups of users (as well as old ones) have real opportunities to involve themselves in a broader sense than in that of an increasingly streamlined reception. This is to say, to what extent can end-users experience rich qualities of social identification that go beyond the monotony of streamlined sensation? Recently, the framework of genre-theory has received new interest, both in Cinema studies and in Computer Science, for its flexible approach which can grasp the multitude of social, cultural, and technical aspects involved in questions about media contexts and user identities. The genre perspective takes the user group, more specifically its communicative purpose and shared understanding of conventions, as its starting point for the study of specific media environments. Through such a user-oriented perspective, the impact of digitalisation on existing genres, and on the emergence of new ones, can be analysed. Significant changes in the patterns of composition within particular genres can be identified and exemplified. Unique traits may be found within sub-genres that are historically situated in more narrowly defined user groups with unique aesthetic and ethical traditions. Exemplification of these bodies of media artefacts has to be supported by detailed arguments about similarities and correspondences. To make this argumentation convincing, the salient traits within each genre should ideally be examined in relation to documentation about stated purpose and shared understanding of the user groups concerned.

As noted before, a special branch of user-oriented IT studies have been concerned with when and how to engage end-users in the phases of conceptualisation, design, and testing. The answers to these questions of user participation are hard to generalise since the different media environments grant very different roles to the audiences and their scope of interaction. These difficulties are further complicated...
by the broad variation in the traditions in which media professionals work and in access to institutional resources for application of user oriented methods.\textsuperscript{18} However, the approach to apply a genre perspective on the emergence of a new media environment constitutes, in my view, a variation of the user-oriented methodology which may have some pedagogical advantages. Even if it is true that different IT-services lend themselves to the application of genre studies to different extents, media networks should be an ideal application domain since the concept of genre is already well known to its users and producers. Before I present the elements of user-oriented genre-analysis as it may be applied to documentaries, I will briefly describe some of the pervasive traits of the technologies that will affect existing genres and facilitate the emergence of new ones.

Digital technologies that support instrumental user interaction

In order to assess how instrumental interaction can support user participation we have to identify the most pervasive traits that characterise the ongoing digitalisation of moving image technologies. The scope of my inquiry is a specific type of visual media – what we in daily parlance recognise as “documentary film” – and a specific use of this type of media, that which I will propose to call the genres of recollection. This may seem to be a narrow focus, but I will argue for its importance in the coming chapters. As an introduction to the issues of technology, I will focus on two central technical terms – hypermedia navigation and contextual visualisation – terms which I will argue are crucial for the understanding of what the concept of instrumental user interaction may entail. In the following pages I will outline my interpretation of these terms, an articulation which I will then elaborate in Part 2 and discuss further in Part 3.

The conception of the term hypermedia dates back to the thirties when Vannevar Bush wrote the influential article \textit{As we may think} (not published until 1945).\textsuperscript{19} Concerned with the accelerating volume of texts in the field of science and engineering he described a literary machine, \textit{MEMEX} (short for “memory extender”), which would support the reader-user with mechanisms for association, reflection, and recollection. Vannevar Bush’s visionary contribution was the linking mechanism which provides a way to navigate from links, in the form of marked texts or images, to their respective anchors, the destination of the linkage in other, physically separated blocks of texts or images. In his conception of a web of nodes,
all referring to specific textual passages, Bush proposed a way for the machine to keep track of a virtually endless set of relationships. But he also proposed a way for the user to trace these relationships, in the form of graphical representations of the linkages adjacent to the linked items themselves. This double bind that made the web of relationships traceable for both man and machine is an essential trait of what later became termed hypertext systems.

The trail between the joint items of content was a central entity for Bush. As the reader of the MEX engaged himself in the text to the point of becoming a writer, Bush also envisioned a need for trails staked out by each individual reader. In his scenario for a typical session he describes the reader’s successive steps while building his trail.

First he runs through an encyclopaedia, finds an interesting but sketchy article, leaves it projected. Next, in a history, he finds another pertinent item, and ties the two together. Thus he goes, building a trail of many items. Occasionally he inserts a comment of his own, either linking it into the main trail or joining it by a side trail to a particular item.

George P. Landow, one of the leading interpreters of digital media from the perspective of literary theory, sums up the pioneering work by the engineer Vannevar Bush by noting his radical break with some of the traditional assumptions of information technology.

Bush wished to replace the essentially linear fixed methods that had produced the triumphs of capitalism and industrialism with what are essentially poetic machines – machines that work according to analogy and association, machines that capture the anarchic brilliance of human imagination. Bush, we perceive, assumed that science and poetry work in essentially the same way. (My italics.)

The following development confirmed that there was indeed a need for multisequential tools outside the realms of science and engineering. Theodore H. Nelson, who coined the term hypertext in the 1960s, stood definitely closer to the poetically inclined reader than to the scientist in his conception of XANADU, a huge docunverse where users from very different environments could share their joint literary production in ways that guaranteed a fare compensation for all. Nelson
used the term *pathway* instead of *trail*. But the same concept of multisequentiality was at work as in Bush’s *Memex*, based on the active user who participated both in the building of pathways and in the adding of new textual and visual items. An interesting point from the perspective of Cinema studies is that Nelson contrasts the user’s experience not only to that of print but also to the fixed sequential structure of video.

Imagine a new accessibility and excitement that can unseat the video narco-sis that now sits on our land like a fog. Imagine a new libertarian literature with alternative explanations so that anyone can choose the pathway or approach that best suits him or her. (My italics.)

In the case of Douglas Engelbart, the designer of *Augment*, one of the first functional hypertext systems, it was the users in industry and their need for flexible and decentralised information systems that provided the inspiration. The design of *Augment* was the result of a carefully thought out method for learning called *Bootstrapping*. Its basic idea was a constant and systematic refinement of learning routines that would engage all employees in the enterprise, create critical knowledge tailored to that enterprise, and thereby raise the capabilities of the enterprise as a whole. However, judging from recent projects in Sweden, the design and flow of a company’s strategic documents for decision-making still receive limited attention in learning programmes performed in industrial settings. Engelbart’s way of showing the critical importance of such design efforts makes his contribution truly visionary. His search was aimed at generic routines that would spread out into the company and create new feedback loops for learning. This search convinced him about the need for inter-disciplinary cooperation in the design and testing of new hypertextual tools. But he stressed that this cooperation should concentrate on specific domains and should not exclude the practical design and testing of a common set of tools.

There is a powerful potential in this [cooperation]. But to reach it we have to develop methods, procedures, conventions, and organisational roles in relation to the different tools—not in isolation from them, as has been the case so often. And for hyperdocument systems to become open we need much better and deeper research into domains that today are separated but which all aim in the same direction. (My italics.)
The usefulness of Vannevar Bush’s, Theodore Nelson’s, and Douglas Engelbart’s concepts of hypermedia navigation was proved by the general acceptance of Tim Berners-Lee’s design of the hypertext transfer protocol (HTTP) at CERN in 1989-91. Again the setting was that of science and engineering. The researchers needed tools for their swift sharing of each other's work in progress. The standardisation of the signalling procedures, through the Internet-protocol (TCP/IP, 1968-72), had paved the way for a corresponding standardisation of the procedures for networked user interaction. The rapid acceptance of the World Wide Web as a general-purpose information environment in the middle of the 1990’s showed that the technical and economic potential for an augmented connectivity could not be realised until the user-end conventions for interaction had been standardised according to the needs of non-technical users.27

The transfer protocol had established a standard for the physical coding of the texts and images to be accessed. Now the hypertext protocol established a defacto standard for the coding of conceptual relationships between and within these texts and images. Both these protocols are essentially machine oriented, although their development were driven by the specific user demands of the research community. But the World Wide Web was also accepted as an information environment outside of the universities. Herein lies the secret of the double bind envisioned by all three pioneers of the hypermedia concept. Bush pointed to the user’s need to be able to keep track of all the interrelated trails through a graphical representation. Engelbart realised this vision in a functional system and pointed to employee participation as a vast source of energy to drive future design activities. Nelson generalised the use of the system outside of the research and industrial communities and pointed to reciprocal compensation as a key element in user participation. In these considerations they all employed a user-oriented perspective on strategic design issues. It is hard to envision the popular success of the World Wide Web without the graphical visualisation of the pathways through lists, trees, and maps, devices that all lend a tangible and much needed support for user navigation. Not until the users could conceive of the trails as separate from their content could they envision the general usefulness of the environment. It was not enough to code the conceptual relationships in a standardised way for the machine to recognise. The reciprocal linkage – invoking user conceptualisation of these codes and conventions – had to be agreed upon. And this took the form of
visually rendered menu lists, trees, and maps, conventions already developed for the human communication with the desktop and the workstation computers.

The importance of the early contributions to hypermedia navigation lies in that they apply a user-oriented perspective that foregrounds the practical instrumental user participation in navigation, interpretation, and authorship. In this respect, the pioneers’ proposals still provide a valid frame of reference for the assessment of media innovation. In such a long-term perspective the wave of formal innovation on the World Wide Web is only at its beginning as far as realising the potential envisioned by their architects. It is only new groups of users with unique demands that can feed the development of new conventions for visualising conceptual relationships. It is only through their intense testing and redesign the new trails and pathways through their respective contents can develop. The social processes conditioning this development are of an obvious interest when trying to grasp the formal aspects of visual documentation. And for the study of the genres of recollection, a special interest should be paid to how conventions for visualising time patterns evolve over time. Since visual documents always bear traces both of the course of events they depict and the course of events that record them, this analysis has to include the contextual traces left by the recording process. This is the background for the second of the two technical terms, contextual visualisation, a term which is crucial for the understanding of what the instrumentation of user interaction may entail.

Contextual visualisation that support user navigation

Visualisation of complex courses of events, often termed Scientific Visualisation, early became an important domain for computer applications. Many of its technical breakthroughs originated in the 1950’s when visual display units (VDU) where developed for the operation and control of weapon systems such as the SAGE Air Defence System. The military applications were soon followed by civilian uses in technical construction, in geographic information systems and in business related software. Pioneering contributions were made by Ivan Sutherland who in his SKETCHPAD system managed to introduce new tools for interaction (keyboard-and-lightpen), new constructional activities (basic compositional devices such as Pointing, Drawing, and Choosing), as well as new internal representations to support
these tools and activities (data structures for storing symbol hierarchies). Introduction of visualisation packages such as DICOMEDIA II and ISSCO DispL helped develop the use of “Business Graphics” into an application domain of its own. The coupling of visualisation software such as VisPLOT to utility software such as VisCALC was instrumental for the introduction of Personal Computers outside the communities of science and engineering in the late 1970’s and early 1980’s. The visual, metaphorical rendering of the computer interface as a desktop with icons for documents, programs, folders, and other types of containers and agents, a scheme derived from Engelbart’s implementation of AUGMENT and first applied in an industrial setting by Xerox corporation in the mid-seventies, further helped to involve new groups of users. Computer games followed in the path of military and business related simulations and further explored the expressive and associative possibilities of their visual interfaces.

From having been reserved for the scientific study of complex natural and man-made systems, the pedagogical qualities of visualisation was employed to develop the dynamic aspects of the user interface. What was earlier regarded as a finished visualisation, in the form of a still image or an computer animation sequence, could now be a conveyor of a rich array of hyperlinks and thus support an extended search or a prolonged presentation. In this way, visualisation techniques have become one of many integrated techniques to support navigation, interpretation and authorship in application domains ranging from archives of the collected works of August Strindberg to portfolios of individually tailored courses on mathematics.

The realisation of visualisation as a central aspect of the human-computer interface was also dependant on broader, less domain specific issues of user orientated design. Thus, there are many sophisticated machine-oriented developments that pertain to visualisation, such as enhancement of resolution, colour fidelity, depiction of different kinds of motion and different kinds of object types. In respect to what could be considered as noise in digital visualisations, the technical development is now, slowly but steadily, approaching the levels where an observer, in a (very) controlled situation, no longer can separate a mediated viewing act from the “real”, situated and unmediated, viewing experience. Other technical developments are still more general and less dependent on the explicit demands of end-user communities, such as image compression for enhanced communication performance and image encryption for control of security and compensation aspects.
Experiments with new projection techniques are taking steps towards a context awareness which in the near future will provide for more diversified user interface solutions. In directions labelled Ubiquitous Computing, Embedded Computing, or the Disappearing Computer, the computer screen is undergoing unexpected transformations, not just becoming smaller and more integrated with the artefacts of everyday life, but also taking on the shape of architectural elements such as doors, walls and windows.36

Parallel to these machine oriented, technical research issues of visual design, there are practical questions that are more directly user-oriented in the sense that their explicit starting point is the needs of specific social organisations or social activities. Examples of such topics may deal with how different levels of visual and textual access should be managed to guarantee security without stifling collaborative user participation, how the flows of entries in service diaries for maintenance in industry should be laid out to support team cooperation, or how 3D environments can be used to represent fieldwork in the design of networked workplaces.37 These are the cultural research issues introduced in the preceding sections, issues for which the focus on particular multi-user environments require new design rationales, where the active participation of the end-users in design and implementation is required, and where researchers from the social sciences and the humanities are asked to contribute with the methodologies of their respective discipline. The cognitive aspects of visualisation inevitably becomes central in this kind of research since it deals with composite qualities that are hard to define and measure, such as the extent of relevance for the particular user group of a certain visual design. We may assume that the visualisation has to adhere to the conceptual and visual conventions that are shared by its community of users. But how do we identify and describe the essential conventions shared by the particular user group?

The broad context in which a certain community uses a certain medium has to be analysed with references to its socio-cultural history. The geographic region, the kind of work, or the kind of interests that unites the community should ideally be explained in terms of its explicit purposes and values. And the communicative systems employed by the community play a strategic role in the formation of those values. In this sense, the context of a certain community specifically has to refer to the unique traits of the communicative artefacts used in that community to sustain its identity. It is this broader meaning of the term media context that I will apply
when examining the visual designs of the example documentaries in Part 2. This is also how the term is used in current directions within user-oriented IT design in which the concepts of genre and design patterns are applied to questions that require an explicit awareness of social and cultural preconditions. In this perspective the contextual qualities of visual design can be identified, talked about and compared in terms of specific compositional patterns in specific genres with their specific community of users. Thus, the questions about technical performance relating to resolution, colour, and motion can be qualified in terms of culturally conditioned visual, narrative, and rhetorical composition.

The enhanced means of navigation in hypermedia has already been discussed as one of the characteristic opportunities of digital moving image technologies. In the following chapters, I will argue that the enhancement of these navigational devices may prove to be one of the unique opportunities for formal innovation within the genres of historical programming. To my mind, the new and extended expressiveness made possible by the meta-structures of hypermedia have already proved that it can support a new kind of instrumental user interaction that entails a deep involvement in navigation, re-construction, and authorship. To be able to envision how such an involvement may emerge it is important to foreground the opportunities of contextual visualisation. Beyond their extended machine-oriented capabilities, digital technologies provide visual designers with rich opportunities for compositional innovation. But these compositional opportunities can not be identified and talked about in the same terms as their machine oriented counterparts. They relate to cognitive dimensions such as relevance, comprehensiveness, conciseness, and aesthetic integrity. And these dimensions all depend on generic contexts, contexts which can be captured and specified in terms of “compositional patterns” of historical media artefacts. It is also in such compositional patterns the historically situated scope for user involvement can be articulated.

Foregrounding the opportunities of digital media-technologies to enhance navigation and visualisation should not exclude a critical stance towards the problems of those same technologies. Among film and television practitioners there is an often well grounded scepticism towards the large scale introduction of digital equipment as replacement for well working analogue production facilities. The target of this scepticism is often the timing aspects and the organisational and economic policies that underlie such projects. Even if these aspects are not a central tenet of this study, they have to be considered as decisive factors for the success of particu-
lar projects. It is important to note that the long-term success of large scale projects has to be measured in terms that go beyond those of (short term) economic and technical breakthroughs. In these circumstances, being able to describe instrumental user participation, by recording sustained patterns of end-user involvement, may be one way to estimate the potential for a qualitative, long term success. \(^4\) The attention to user involvement requires an understanding of user domains, or genres, to employ the word from media studies. And to understand a specific genre requires a recognition of how the compositional patterns of that genre relate to each other and to patterns in adjacent genres.

In the literature of Cinema studies, one of the most debated consequence of the digitalisation of visual media is the loosening of the indexical bond that binds photography and cinematography to the realm of “the real”. \(^4\) For those genres that claim a special relationship to values such as authenticity and representability, this aspect of digital technology constitutes an obvious danger. Images can be manipulated to misrepresent what they are implied to reveal. Low cost and light weight equipment invite unscrupulous producers to enter into relationships with their subject under false pretences. Low cost footage, shot and edited under unclear circumstances, constitutes a permanent temptation for broadcasters to tamper with editorial standards. \(^4\)

Closely related to the threat of an increasingly unclear machine-dependant binding between the image and its object are the disorienting consequences of dissolving genre conventions. Conventions that were supposed to be shared and agreed upon assume new meanings. Borders between genres are blurred and the individual viewer is, to a greater extent than before, left alone to interpret the questions of context and relevance. Some scholars are very specific in their critique of how values of identity are abandoned and supplanted with thinly disguised values of consumerism. \(^4\) Other scholars point to the inherent complexities of the digital technologies and emphasise that formal, generic innovation takes time and extensive user involvement to succeed in building new and sustainable conventions. \(^4\)

These unpromising consequences – diminishing levels of user involvement due to decreased levels of credibility and identification – deserve close attention. But they have to be related to the constructive possibilities of these same technologies to avoid technological determinism. My central concern is to propose a way to analyse constructive possibilities in a framework that combines the perspectives of Cinema studies and user-oriented Computer Science research. I will return to
the unpromising consequences that I have just described in Part 3 where they will be discussed in more detail. But before I leave the theme of technologies that support (or disrupt) user interaction, I will conclude with a short comment about the indexical bond as a linkage of documentary film to historical reality.

What concrete forms can the loosening of the indexical bond take in a documentary film? If an image could be deemed to misrepresent its object, the image also has to claim that it indeed does represent it. This is done through a certain set of contextual conventions. If a pretence shall be deemed to be false, it has to be defined in relation to something like a truthful claim. Again, this is done in accordance to certain historically situated contextual conventions. The same argument has to be made in regards to footage from an unclear production background. The production history of an image, or of a film, belonging to a certain genre can not be assessed without detailing the contextual design conventions pertaining to that genre. In the case of blurred borders between genres, the blurring is exactly aimed at the conventions which clearly signal the marks of adherence and belonging.

How then can we identify the opposite of a deluding or “non-contractual” blurring of borders? Probably, its essence lies in a creative adherence to contextual conventions that signify a negotiated extension of genre belonging, visible in and around the media artefact itself. In the case of the indexical bond – to remedy the loss of a photo-chemical indexical bond, it has to be transformed into a photo-electronical bond that adhere to or extend the established conventions of genre-belonging shared by its particular users. These genre-specific conventions, to my mind, are best analysed by focusing on how different genres apply different compositional patterns to mirror the shared values of their user communities. Thus, we could hypothesise that the future documentaries which are met by a strong popular acceptance are those where the loss of the photo-chemical bond is overshadowed by a successful application of hyperlinkages which adhere to and extend a certain set of generic compositional patterns.

Themes of exploration in documentaries on history

In the two preceding sections I have introduced some of the key concepts of user orientated IT research and two aspects of digital visual technologies that are of central concern in my study, hypermedia navigation and contextual visualization. In this section I will be more specific about what I mean with “the genres of recol-
lection”. I will highlight the centrality of the historical perspective in the documentary tradition and discuss the affinity between historical projects as they are conducted in cinematic and non-cinematic media. Since all documentaries can be said to belong to a genre of historical programming, I will need some kind of reference which can make the specific compositional patterns of the historical inquiry identifiable. And the comparison between the act of filming and the act of writing historical accounts offers such a frame of reference. I will project the technical and formal questions of the documentary on the University as an institution. While doing that, I will also discuss how other disciplines at the University have applied their perspectives in documentary productions, perspectives that have coincided with and thereby enhanced the historical awareness to different extents.

The university is an institution where histories are reconstructed in the department of History, where digital technologies are developed in the department of Computer Science, and where social and aesthetic opportunities of digital media technologies are examined from different perspectives in the departments of Literature, Journalism, Film and Media. However, the university as society’s leading institution of science and applied research is undergoing considerable change. Its traditional role is often described as a threefold responsibility: to be the guardian and curator of cultural and scientific knowledge, to develop and expand that knowledge, and to educate new students and scholars. Today, this role is being extended according to new demands to reach out into the society at large and to supply a growing number of sectors with state-of-the-art methods and know-how. At the same time, research divisions of large corporations and state agencies are expanding with the explicit motivation to increase industrial and national competitiveness through raising the level of productivity. However, the expansion of corporate research ambitions that infringe on the publicly financed institutions is met with some scepticism by scholars and scientists who argue that market-oriented applications of established paradigms threaten to delude the variation and depth required for socially useful research. The counter-argument is that there are apparent risks associated with isolationist policies within the educational system. Bureaucratisation may stifle the overall activity and result in an inwardness that disregards the fruitful interplay between academia and the society as a whole.

This ongoing debate about the extended mission of the university provides an important background for the two interdisciplinary activities investigated in this study – the development of media technologies and the production of histori-
Since the study itself is conducted within the university setting, it can be taken as a required act of self-reflection to declare my own point of view in regards to this issue. Making the user-oriented paradigm of current IT research the starting point of my study inevitably brings questions of social applicability to the foreground. The choice of emerging visual technologies as the main subjects further emphasize issues of practical, technical applicability at the cost of general theoretical scope. The choice of historical programming as the prime media content to be examined provides me with a universalistic set of values that are at the core of the academic tradition and which constitutes a powerful frame of reference against which formal and technical innovation can be assessed. In other words, by taking documentaries that explicitly claim to adhere to the rules of historical accounting, I can apply those same rules in my assessment of the individual documentary projects. This, in turn, is another way of saying that the individual projects that I want to discuss, are those in which the producers have extended the realm of the University.

In Representing Reality, Bill Nichols’ influential book on documentary film, the term “the discourses of sobriety” is used as a recurrent frame of reference. In Nichols’ terminology, the discourses of sobriety are the non-fictional discourses of authority which are performed in the established scientific, economic, and political institutions of society. Nichols’ observes that documentarists have always had a desire to take an active part in those sober dialogues. He identifies the kinship between the documentary project and these established institutions of social negotiation but emphasizes the relative autonomy of the documentary tradition. To me, Nichols’ notions confirm the relevance of examining individual documentary projects in relation to the themes and methods used by professional historians. For the documentarist, the stress on qualities of sobriety seems to work as a warrant to deal with controversial themes in new ways. Similarly, seen from the point of view of popular science, the outward-reaching branch of the educational system, the key expectations of a documentary is that it engages its audience both through its choice of theme and through its treatment of that theme. In the blurred and transitory borders between the scientific and the documentary traditions, non-fiction filmmakers are asked to illuminate dramatic issues and supply visual documents that transcend the kind of documents traditionally supplied by the university.
The characterisation of the role of the documentarist as being in the forefront of popular science is central to what I want to identify as the genres of recollection. While selecting my examples, I have favoured film projects that perform historical inquiries with the explicit purpose to renew the formal conventions of historical discourse. To identify this kind of programming as a strategic domain of application for new media technologies is in line with a high appreciation of the extended role of research and education in today’s society. It also proposes a way to identify characteristic traits of historical programming in digital media. In order to transcend and renew the conventions of historical inquiry, documentarists have to adhere to some of its central conventions. Thus, the treatment of this emerging set of genres as an extension of the university-based disciplines of history provides a general framework for the analysis of individual documentary projects. While adhering to the central criteria for historical investigation, they should ideally transcend the formal conventions of documentation. When I referred to the pioneers of hypermedia I emphasized how the innovative qualities of digital techniques originated from within the engineering departments of universities and technical colleges. And these inventions still provide an exemplary pattern for how historical writing can be performed today. George P. Landow, the leading literary theoreticians quoted above, confirms that the practical developments of hypermedia owes much of their ingenuity to well-known formal standards already established throughout the academic world.

The standard scholarly article in the humanities or physical science perfectly embodies the underlying notions of hypertext as multisequentially read text.  

To illustrate the relevance of regarding historical programming in digital media as an extension of disciplined research, two recent Swedish projects can be mentioned. They both exemplify the longevity of well established visual conventions, specifically the use of the City as a spatial setting on which contemporary history can be projected. HISTORICAL CITY MAPS is a compilation of 200 maps covering some ninety Swedish cities from the late eighteenth to the middle of the nineteenth century, compiled by the Swedish Land Surveying Authority. Another CD-ROM which may also typify the genres of recollection, SÖDER I VÅRA HJÄRTAN (Söder In Our Hearts), is produced by the City Archival Authority of Stockholm and presents a wealth of
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material about the south area of the city. An endorsement from Lars Nilsson, professor of History of Cities and Communes, verifies Landow’s remark, that these presentation technologies is not a foreign thing for academia.

Each map is a masterpiece to enjoy at the same time as new opportunities for comparative studies are opened. (...) It is not a coincidence that both discs are about Cities. The history of Cities can be strikingly presented in maps, images, statistics that, combined with short essays, capture the essence of the City’s history and mirrors its soul. (...) [These discs] are probably only the first glimpses of a new format for presenting the history of our Cities. (My italics.)

The satisfaction expressed in this review articulates a determination of many historians to make creative use of the new digital tools, to the benefit of their own discipline as well as to society at large. In fact, during the latter part of the 1990’ies, the interest from professional historians for the film medium as a serious form of
historical inquiry have been manifested in several anthologies. In his Introduction to Revisioning History, Robert A. Rosenstone sets up the framework for the ensuing articles with the following three assertions: visual media are a legitimate way of doing history; the historical film has to follow its own rules and should not try to replace written history; traditional costume dramas and documentaries are less interesting than what Rosenstone identifies as a new kind of film, New History film, which blurs the border between fact and fiction. What can be added, is that the arrival of new visual conventions for interpretation and navigation in digital media makes it even more important, and more complex, to clarify which rules of composition are to be adhered to, in order to make sense of the past. What Rosenstone proposes to be the unique quality of filmed history is the medium’s potential to provide new perspectives for interpretation, perspectives that he terms “visions” and which are grounded in other kinds of proof than what the written account can provide.

Rosenstone’s appreciation for how film can afford new perspectives, and Nilsson’s interest for the integrative potential of digital media, confirm that documentary projects, even those which admittedly use “fiction”, can attain a more central role than being mere “illustrations” in historical discourse. The fast diffusion of digital visual technologies at the universities will most likely give rise to a revived interest for documentary forms which can enrich the visual conventions of popular science. A critical stance that embraces a constructive attitude to the film medium’s potential to capture the dynamics of complex processes can bring new attention to how the passing of time is accounted for in time-honoured narrational forms such as the diary, the chronicle and the journal. In the same way can space-delineated forms such as the explorative journey and the descriptive travelogue continue to inspire educational projects. This may in turn lead to a new interest in the rhetorical approaches of the interactive and the reflexive modes of representation, modes of documentary filmmaking that have emerged as a result of earlier technical and formal breakthroughs. During the current wave of innovation, based on the communicative capabilities of digital visual tools, the interested parties are not limited to critics and scholars primarily concerned with the linguistic and rhetorical intricacies of non-fiction film. The challenge is not only for the documentary as a set of argumentative genres to receive its legitimisation of sobriety. The magnitude of the technological shift has brought the challenging questions of rhetoric and narrativity to the established scholarly disciplines themselves. In that respect,
the new tools for recording, editing and communicating has brought a new urgency to the questions of academic sobriety.\(^{62}\)

When established disciplines are invited to use the new visual, aural and textual aids, they are confronted with the same questions documentarists have been wrestling with since the camera was first hailed as a supreme tool for science in the middle of the nineteenth century. At the same time, the literature of non-fiction film extends its interdisciplinary approaches to the questions of rhetorical context, visual perception and historical perspective.\(^{63}\) These approaches may soon inspire new categories of readers in the institutions of research and education. Presumably, each discursive setting will assimilate the documentary methods that best harmonise with their own methodology, so that the new instruments of recollection in the near future will reveal essential aspects relevant to many different disciplines.\(^{64}\) The main interest of this study is to try to conceptualise how the methods of historians may (continue to) influence the stylistic developments of documentary film. However, the march of time is not the only prominent subject of the documentary tradition. Therefore I will make some concluding remarks about other academic disciplines which have interacted with, and rivalled, history as the prime model for documentary exploration.

Many of the pioneers of filmmaking saw themselves as explorers of new continents in quite a literal sense. More specifically, the history of the non-fiction film makes clear that ethnographers and anthropologists represent the disciplines that most eagerly have adopted successively new techniques of film recording. Their obvious aim has been to get richer and more authentic accounts of the broad themes of humanity and civilisation.\(^{65}\) Thus, \textit{Nanook of the North} (Flaherty, 1922) was hailed for the authenticity and the dramatic impact with which it portrayed Eskimo life. “Beside this film, the usual photoplay, the so-called “dramatic” work of the screen, becomes as thin and blank as the celluloid on which it is printed”.\(^{66}\) However, as a professional mineral prospector, Robert Flaherty was more of a natural scientist than a trained ethnographer. The impulse that made him dedicate almost ten years of his life to the hardships of filmmaking in the arctic was as much a historical one has an ethnographic. “What I want to show is the former majesty and character of these people, while it is still possible – before the white man has destroyed not only their character, but the people as well.”\(^{67}\) This explicit declaration of intent shows that Flaherty himself was aware of his precarious role in the project. His predicament can be seen as springing from two problems of his histori-
tical account. Firstly, the life he portrayed was the life of the past, not the current life of the Inuits. Secondly, the active part in the drama of clashing civilisations, the intruders, was absent from the account. These deficiencies, in Nanook as well as in his subsequent films, led to accusations of “romanticism”, a label that critics of the later waves of ethnographic film have been quick to apply when the accounting of historical situatedness of filmmaker and subject have been absent from the documentation.

68 The two narrational axes of time and space point to two other academic fields whose practitioners have had close, but not as articulate, relationships with the documentary project. The first, Economic history, or political economy to use an older term, is a field which accounts for how natural and man-made resources are allocated and used over time, thus revealing technological and organisational patterns of change. If Robert Flaherty’s Nanook of the North can be identified as one of the first successful ethnographic films, then Dziga Vertov’s The Man with the Movie Camera (1929) can be regarded as one of the first systematic accounts of how modern technology affected western societies of the late 1920’s. It did not get a popular reception comparable to the one received by Nanook, but its influence on documentary filmmakers, especially from the 1960’s and onwards, is indicative of its generic qualities. 69 In the form of a personal exposé of a day in the City, the film amounts to an analytical panorama of how consumer, industrial, transport and media technologies are about to transform the life of its inhabitants. One of its most original expressive devices is its inclusion of the filmmaker and his team in the unfolding panorama. As noted by Eric Barnouw, this decision to enter into the account had far reaching ramification for the role of the documentarist and for our understanding of what non-fiction film can be about. “We see the making of a film and at the same time the film that is being made. The interweaving of the two is constant and, in its playfulness, disarming, stimulating, often baffling. (…) The film incessantly reminds us that it is a film (…) But the artificiality is deliberate: an avant-garde determination to suppress illusion in favour of a heightened awareness. The film is an essay on film truth, crammed with tantalizing ironies.” 70

If Economic history is aimed at revealing technological and organisational patterns of change, then Economic geography, at Swedish universities often termed Culture geography, foregrounds the same patterns as they are materialized in space, in the building of houses, communities, regional and global clusters. One Sixth of the World (1926), also by Dziga Vertov, can be chosen to name one early influential
film which exemplifies the explorative urge of the geographer. Barnouw ascribes the enthusiastic reception won by this film to a formal innovation that, in his eyes, anticipates the use of spoken commentary – the use of short, intermittent subtitles which link a series of disparate parts into a meaningful whole – an innovation which Barnouw traces to Vertov’s admiration for Walt Whitman. Since this innovation also points forward in time, to later poets/writers/filmmakers who have tried to invoke a sense of meaning through an analysis of space-time patterns, Barnouw’s characterization is well worth quoting in full. “The film presents an astonishing diversity of vivid footage from all parts of the Soviet Union, fused by the intermittent commentary addressed to all its people. ‘You in the small villages’ … ‘You in the tundra’ … ‘You on the ocean…’ Having established a vast geographical dispersion, the catalogue turns to nationalities: ‘You Uzbeks’ … ‘You Kalmiks’ … Then it addresses occupations – scores of them. Each catalogue item brings one or more shots, never long enough to halt the momentum of the invocation. The invocation and footage include young, old; men, women, children; those at work, those at play. One enormously long sentence, presented in these short bursts, appears to continue for several minutes and finally concludes with ‘… you are the owners of one sixth of the globe.’”

Both the history and the geography of the powerplay of “economics” have a multitude of manifestations throughout the history of the documentary film. Thus, one of the explicit goals of the group of non-fiction filmmakers that were to precede the early Soviet experimenters, the British documentary movement of the 1930’s and 1940’s, was to expose the economic inequalities of the British society and to advocate for social reform and welfare policies. Even if, in hindsight, this proved to be much more difficult in practice than in theory, there is little reason to doubt the sincerity of the filmmakers’ statements about the need to focus on patterns of economic change. Later innovations in recording techniques have regularly attracted new interpreters of economic processes, often with a background in university settings. In the 1960’s, the lightweight 16 mm cameras with synchronized sound recording opened new channels for the exposure of the tensions between the first and the third world economies. Similarly, in the 1980’s, the lightweight video equipment complemented the analysis by focussing on such hitherto hidden areas as the inner workings of cross-ownership mechanisms and internationalisation strategies of transnational corporations.
As a special case that demonstrates the pre-eminence of the geographical
and spatial perspective in the documentary tradition, the recurrent City symphonies or City films can be mentioned, from Rien Que Les Heures, made by Alberto
Cavalcanti in the 1920’s, to Koyaanisqatsi, made by Godfrey Reggio in the 1980’s, to
name two classical examples. It may be argued that many of these films build their
dramatic power on their temporal unity as much as on their spatial unity. On the
other hand, the filmmakers’ preoccupation with some of the spatial patterns of city
life, and the endless variation that these patterns reveal over time, points to the
interplay between the two dimensions of time and space as an important source of
formal innovation. In writing about the British documentary movement of the 1930’s
and 1940’s, Brian Winston points to the interplay between these compositional
principles as one of the motivations that provided for variation and liveliness: “For
most documentarists, the diurnal was as seductive an organising principle as the
journey.” In his analysis of one of the most innovative films of its time, Listen to
Britain by Humphrey Jennings, he even identifies this temporal unity as a specific
compositional element: “The ‘internal chrono-logic’ of Listen to Britain arises from
its strongly inscribed diurnal pattern, in this case from afternoon to afternoon.”

The principle of noncontradiction in media analysis

For all the directions within the documentary project that may be regarded as
extensions of their respective academic discipline – be it ethnography, anthropol-
ogy, economic history or economic geography – the interactive visual archive is
now starting to become a feasible reality as a scientific and educational instru-
ment. The potential for these instruments can not be measured only in terms of
quantitative gains in audience size. Innovative use of such aids may also play an
important role in the conceptualising, the observational and the presentational
stages of education and research. It is highly probable, and to my mind highly desir-
able, that the literature of non-fiction film can inspire these disciplines in their
quest to understand and make meaningful use of the new digital visual aids. This
amounts to a challenge for film-scholars to address the need for practical source-
books on new visual technologies. The goal of this study is to exemplify how the
processes of formal innovation in documentary film can be clarified through the
identification of specific design patterns characteristic of specific genres. But be-
Before I introduce the concepts of design patterns and genre I will briefly comment the notion of noncontradiction as a key principle for the reconciliation of different approaches in interdisciplinary studies.

In *Film History, Theory and Practice*, Robert C. Allen and Douglas Gomery outline the basic principles of film historiography, one of the three major branches of film study, along with film theory and film criticism. With reference to a realist philosophy of science, and in opposition to what they term the empiricist and the conventionalist approaches, they argue for a realist principle of noncontradiction as one of the basic criteria for the validation of historical explanation. This principle is particularly important in film history, they claim, since “scholars hold a wide variety of philosophical positions, and even a variety of notions of what constitutes film history itself.” Thus, the challenge is to provide a mechanism, some basic criterion, for scholars from different disciplines to relate to their respective accounts, accounts that may differ widely in their definitions of subject matter, conceptualisation, and methodology.

A Realist approach to film history insists that historical explanations can and should be tested by reference both to historical evidence and to other, competing explanations. Where explanations from differing theoretical positions agree, we have, in the words of Terry Lovell, “a residue of theoretically grounded ‘observations’ which may be taken as the testing ground for any given theory at any given point in time.”

The criterion of noncontradicting explanations which result in “a residue of theoretically grounded observations” will play an important role in my attempt to align the concept of design patterns to recent propositions in genre theory. The general aim of my study is to show that there are strong parallels between how the film scholar Rick Altman uses the concept of genre to explain formal innovation in media artefacts and how the Computer scientist Thomas Erickson employs the concept of design patterns to explain the same phenomenon. The way I have chosen to show this parallelism is to apply a genre perspective within which a set of design patterns will be identified as being of characteristic significance. In other words, I will investigate a series of documentaries that belong to the genre of historical programming. In each of these examples a set of design patterns will be identified and discussed in relation to their explanatory power, specifically to what
extent these patterns can cast light on the interplay between technological and formal innovation.

In this context, the principle of noncontradiction can be applied in at least two ways. Although the primary aim of the Allen and Gomery’s argument is to reinforce historical evidence with further evidence from other theoretical fields, a secondary aim is to reach a set of “‘observations’ which may be taken as the testing ground for any given theory at any given point in time.” In short, the first aim is to confirm certain observations, while the second is to try out new theories. But in my context, the challenge is to probe the noncontradictory qualities, the parallelisms, of two theoretical approaches which are accepted within their respective field. This amounts to a third use of the principle where it is applied in order to show if and how two conceptual frameworks can complement each other.

The complementary qualities of the genre and the design pattern perspectives, or frameworks as I will call them, becomes evident in that they often relate to similar issues, but that they do so from two different frames of reference. Genre invokes the context of formal conventions in specific social uses in specific historical situations. Design patterns are used to describe those same conventions from the context of the designer and his or her (re)constructive efforts. In that respect, genre theory can be identified as the most historically informed framework of the two, since it investigates the evolutionary aspects of formal innovation. In such an interpretation, the latter framework seems to be concerned with the here and now, the practical intricacies of composition and subject matter. But, as it turns out, both frameworks can be argued to be historically aware, although in quite different ways. Before I present my empirical observations to support this and other notions of noncontradiction, I will introduce the two conceptual frameworks of design patterns and genre in more detail.
Patterns of Design in Built and Mediated Environments

Patterns as a means for conceptualisation

In 1964, Christopher Alexander presented the concept of patterns for architectural design in Notes on the Synthesis of Form. Here he argues for the need to formalise the concept of form according to functional as well as pedagogical criteria. Form and context are the two key concepts in Alexander’s proposed formalism. There basic relation is that, in all kinds of architectural design, form is adapted to fit the requirements of the outer world, the context. Alexander emphasises the complex requirements of the real world. Even in ancient society, this complexity was beyond the scope of any single designer. Architectural knowledge was inscribed and manifested in the whole cultural context that surrounded the activities of building and reconstruction. Through the immersive character of this widely dispersed knowledge, large segments of the population were mobilised to watch over the stability of the built environment and to act upon any imbalances according to their roles in the general division of labour. Alexander explains the rich diversity in architectural forms that have evolved throughout history by pointing to the relative autonomy of the sub-systems of architectural construction. Through this autonomy the different activities of construction could be self-sustainable and slowly but steadily assimilate functional enhancements. With convincing mathematical arguments he not only demonstrates the intrinsic complexity in designing everyday things, such as a kettle, but also the rich opportunities of variation when a set of generic requirements are fulfilled.

The empirical case-study of Alexander’s dissertation concerns the inner workings of a small Indian village. Here he identifies some two hundred requirements, all managed by the inhabitants in small, relatively independent and self-
regulating sub-systems. By identifying sixteen such interlinked sub-systems, and by depicting their respective pattern of recurrent movement in the physical world, he proposes a way to map out the village as a whole. In Alexander’s approach, the crucial acts of design thus depend on the ability to identify the requirements of small, interdependent systems, the ability to adhere to these requirements in functional and innovative designs, and the ability to share the understanding of the design in ways that make it maintainable by its users. The emphasis on the pedagogical aspect of the activity is very central to the formalism of patterns as it is proposed in *Notes on the Synthesis of Form*. Designers need a formal way for describing their subjective experiences of physical form and context to be able to cooperate. The more concise and expressive a documentation of the interplay between form and context in a particular design can become, the more successfully it can be shared, sustained, and enhanced by their users. In Figure 2, Alexander clarifies the interdependencies between form and context and the need to develop a formal understanding of these interdependencies.

Alexander’s key insight on the pedagogical level is that there is one crucial sub-systems in all kinds of design activities, the phase of conceptualisation. This phase is intimately associated with visualisation in one form or another. In the literature on the history of technological innovation the phase of conceptualisation and visualisation is generally regarded as one of the critical phases.

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Figure 2. An adaptation of the Context-Form diagram in *The Synthesis of Form*. C1: context; F1: resulting form; C2: subjective view of context; F2: subjective view of resulting form; C3: shared formal view of context; F3: shared formal view of resulting form. (This is a variation of the original image in which no difference is made between arrows on different levels of mediation.)
of construction. Through Alexander’s combined experience from architecture and mathematics, he manages to propose a formalism of interconnected patterns that employs the strong cognitive potential of graphical imagery. He forcefully argues for the need for common vocabularies and demonstrates the efficiency of complementing the written word with visuals that grasp complexity by mapping out interdependencies.

Alexander bases his reasoning about the conciseness and cognitive power of the visual display on three types of diagrams: requirement diagrams, form diagrams, and constructive diagrams. The last of these types represents the successful application of form to the contextual requirements. He exemplifies such constructive diagrams with a street map where the traffic density at a specific intersection is indicated via the thickness of the different arrows representing its different paths.

In this form the diagram indicates directly what form the new intersection must take. Clearly a thick arrow requires a wide street, so that the overall pattern called for emerges directly from the diagram. It is both a requirement diagram and a form diagram. This diagram is a constructive one. The constructive diagram is the bridge between requirements and form.

The example is typical of the visual imagery codified as patterns. Their purpose is to reveal recurrent patterns of interplay in the built environment and they do so by depicting the physical traces left by the interplay. The depictions may sometimes be quite subtle and require an open and attentive mind to decipher. In the case of
Figure 4. Facsimile: the first pattern in *A PATTERN LANGUAGE*
city traffic, the tracing is obvious. But as patterns on higher levels are composed of lower level counterparts, the traces has to be read and comprehended as cultural composites which only in indirect and imbedded ways reveal their physical marks. Here one may refer to the well-known taxonomy of Charles Peirce, who categorised an image either as an index, if it inscribed traces of its object; as an icon, if it exhibited likeness with its object; or as a symbol if it was a pure act of convention. According to this taxonomy, the image of the crossing roads can be regarded as an example of an index, even if it is an abstract and formal rendering of the actual physical traces left by the traffic.

The language of design patterns

In 1977 Christopher Alexander and five of his colleagues published the influential book A PATTERN LANGUAGE – TOWNS, BUILDINGS, CONSTRUCTION (APL). It got, and still keeps, high rankings on the best-seller lists in the architectural field. But the interesting thing is that the recognition it receives comes not only from academic architectural circles. Passionate amateurs use the book as a practical manual for building their own houses and supporting their own neighbourhoods. Sophisticated software engineers use it as a source-book for a powerful methodology of object oriented programming. As their methods for identifying generative patterns in software design have been proven fruitful, researchers studying the implementation of new technology in concrete workplace settings have become a third group of border-crossing readers.

In A PATTERN LANGUAGE, Alexander and his colleagues apply the pattern methodology to the full range of architectural domains. Its subtitle, TOWNS, BUILDINGS, CONSTRUCTION, reveals that its subject is a totality, and at the same time the interconnectedness, of different constructional domains. Thus, APL represents the full application of the pattern approach as a language where not just the patterns, but the interconnectedness between them is formalised. APL identifies 253 patterns, from Independent regions to Things from your life. Larger patterns, such as Self-governing workshops and offices, are built up of smaller patterns, such as Office connections, Building complex, Small services without red tape, Master and apprentices and Small workgroups. Each pattern is typically presented on four to six pages through a short text animated by three indexical images: a documentary photograph, a contextual requirement diagram, and a constructional diagram.
The indexical status of these images, photographs as well as diagrams, is of crucial importance. They are not icons, providing likeness, nor symbols, providing conventional understanding. They are indices, representing traces of human activity. Another crucial quality of the book’s layout is how the relationships between patterns are accounted for. Preceding and following the diagrams are lists of links to the generated (more general) and the generating (more particular) patterns respectively. Each pattern definition can be read as a short visual narrative, complete with a beginning, a middle, and an end where the initial relations are transformed. Since the lists of links are in effect indices, tracing the interrelations between patterns, the book can be enjoyed as an interactive documentary narrative, revealing the trails of human activity through the gardens, streets and markets of the City.

In sum, the aim of the Alexandrian patterns is to visualise constructional systems with a focus on the interdependencies between their subsystems. The approach amounts to an abstract, yet poetic and multilingual system of annotation for building in the physical world. The authors of APL stresses the “A” in the title. Their book is not “The” definition of pattern languages but an invitation to try out, alter...
and refine patterns of proven value. And, as I have already noted, the invitation is accepted by software designers. Both those who specialise in Object Oriented Programming and consultants who apply it as a user-oriented approach to the concrete problems of individual implementations. Specifically, the power of its open and flexible formalism have been noted in the area of workplace studies. Here, the researchers can share findings between themselves in a more effective manner than with other methods. A related benefit is that practitioners can play a more constructive part in the design process thanks to its pedagogical qualities. Source-books of patterns with proven value can be compiled for further use and elaboration. Such compilation projects are very important steps in the development of the method within its different fields of application. This development has not proceeded as far as in the domain of workplace studies as in the domains of software programming and interface design. On the other hand, its progress within workplace studies represents a strategic effort that may have important consequence for other application domains of user-oriented design. The workplace – regardless whether we work in industry, services or the educational system – is a central entity that shapes the working conditions for all of us and that influence the social and economic conditions of our neighbourhoods. Consequently, future documentarists who will try to apply the pattern approach may probably find as much inspiration in the source-books for workplace design as in APL, the original definition of the method.

Design patterns in mediated reality

In the fields of architecture, workplace studies, and software design, patterns are used as hand-written or printed visual and textual documents that facilitate understanding and verbal communication. They are of a highly operational kind. This require that they are as expressive as they are descriptive – a dual quality that Christopher Alexander describes as the poetic quality of the image and its accompanying text. For the documentarist, and for the Cinema scholar, the poetic quality of such visual pattern documents is interesting in its own right. The expressive power of the documents represents a prolonged process of adaptation to the particularities of the situations in which they have originated. Their poignancy reflect the urgent needs of their user community. This emphasis on visual clarity and articulated needs makes the approach particularly well suited for the study of docu-
mentary genres of recollection. The method’s elements of user orientation are evident in its stress on pedagogical value and user participation. Its thematic origin, the fact that it is a methodology for the study of urban environments in their social and cultural complexity, makes it an ideal approach when examining a category of film that have the landscapes of the City as one of its favourite settings.

In what concrete ways then, could the pattern language approach inform the study of documentaries that focus on historical courses of events? The thematic affinity, that the method is devised to cast light on the spatial setting of recurrent everyday events, is one of its intriguing potentials. This thematic parallelism will be taken up in each example in Part 2 as a point of departure. Where is the particular project situated in terms of space? This question will be answered in terms of patterns, in the kind of institutions and pathways that becomes depicted. But the main use of the pattern concept will be concerned with formal issues. I will look for recurrent patterns of formal construction in and among the documentaries I have chosen to study. More precisely, I will examine to what extent the pattern concept can be used to clarify some of the key concepts associated with genre theory. In this respect, I will build on the potential of the pattern formalism to provide concrete insights into the practices of media design. Here we can identify another parallel between the study of the city and the study of its non-fictional depictions in film. The hypertextual design of the pattern formalism — the indexical quality of its interwoven imagery — makes it a promising formalism for analysing the practical application of hypermedia navigation and contextual visualisation, the two technologies I will focus on in my examples. The possibilities of this parallelism will not be a central issue as such. The usefulness of the results of the application of patterns will have to be a more central concern than the usefulness of inherent hypertextual elements in the analytical procedures.

If it is true, as noted above by George P. Landow, that scientific literature in general exhibits distinct marks of hypertextual structures, then the book APL extends these structures considerable by making them explicit and by providing a concise argument for their usefulness. This may have been done earlier in treaties on mathematics, philosophy and literature. But the distinct feature of APL is that it is designed to adhere to the requirements of its intended readers, people who build their own houses and take an active part in forming their own neighbourhoods and workplaces. To my mind, APL can be taken as another evidence of the viability of hypertextual authoring practices. The book can be read from cover to
cover or by following threads of interlinked patterns. I have already mentioned one such thread that deals with work: 9. Scattered work, 41. Work community, 80. Self-governing workshops and offices, 157. Home workshop. Other threads deal with learning: 18. Network of learning, 57. Children in the city, 83. Master and apprentice. A distinctive quality of these threads is that they transcend the usual modern-life borders between work and leisure time, leisure time and learning and so on. An example from the tailing list that enumerates (links to) the smaller patterns that support Network of learning can be quoted.

Above all, encourage the formation of seminars and workshops in people’s homes – Home workshop (157); make sure that each city has a ‘path’ where young children can safely wander on their own – Children in the city (57); build extra public ‘homes’ for children, one to every neighbourhood at least – Children’s home (86); create a large number of work-oriented small schools in those parts of town dominated by work and commercial activity – Shopfront schools (85); encourage teenagers to work out a self-organized learning society of their own – Teenage society (84); treat the university as scattered adult learning for all the adults in the region – University as marketplace (43); and use the real work of professionals and tradesmen as the basic nodes in the network – Master and apprentices (83) ...92

This is a good example of how APL employs a poetic visual and written language which, at its best, reveals the non-linear, organic interconnections between the constructs of the physical world. This should be one of the opportunities of patterns when applied to genre studies, to inform the empirical observations with poetic qualities that resonate with its subject in a systematic, yet flexible way. To me, it is fascinating to note how a design methodology about architecture, based on mathematical arguments and a wealth of empirical observation, can infuse the language of images with such expressive qualities. In my experience of reading the book, the attraction of the text is not only its factual, informative value. Its aesthetic qualities are probably an as important explanation to its pedagogical power and popular success as its factual accuracy.

The pedagogical value of the innovative textual and visual design of APL cannot be overstated. It is already proven, in critical application domains such as Object Oriented Programming, that the syntax developed in the book provides for a replicability in other media than that of print, and in other fields than that of architecture. This alone should make it an interesting option as a framework for studies
of documentary genres. The embodied social institutions that Alexander and his colleagues depict as patterns of recurrent interplay are generating, and generated by, each other. Their book is laid out like a puzzle. But it is not a flat puzzle. Each pattern is interconnected with a range of other patterns. And they are not all on the same level. Some of them function as support and necessary prerequisites for a particular pattern, others are in turn generated by that particular pattern, along with other supportive counterparts. This framework for the architectural studies have interesting parallels to the framework for media studies that focus on genre.
I have already outlined that my focus in respect to media technologies lies on a particular set of consequences of digitalisation – the prospects of contextual visualisation in the service of hypermedia navigation. My assumption as far as design patterns goes, is that they can be instrumental in clarifying how these technological prospects could be realized. Since the application of design patterns is domain specific, I will start my introduction of the concept of genre with a current contribution made in the field of user-oriented software design. This will give me a preliminary framework for the identification of design patterns in the genres of digital media, a framework which I will then examine in a relation to current contributions made in cinema and literature studies.

A HCI perspective on the characteristics of genre

Thomas Erickson, a well-known expert on interface design, has recently discussed the concept of genre from the perspective of digital media.93 Erickson’s contribution is very clear in its outline and it is general enough to harmonise with the Cinema studies perspective.94 Since it deals directly with digital media and also, although indirectly, refers to the concept of patterns, a summary of Erickson’s proposal will provide a good point of departure.

How do you identify a genre, which are its characteristics? First of all, a genre has a specific communicative purpose. Secondly, it has unique regularities in form and substance. As a third distinctive trait, genre has a discourse community, that is, a community of participants with different roles among its members. As its fourth distinctive trait, a specific genre has a shared understanding of its specific regularities within its community. To my mind, this definition of genre gives an impor-
tant dynamic framework to the concept of pattern languages. If the terms regularities in form and substance is translated into recurrent patterns of form and substance, then the relevance of the Alexandrian pattern concept becomes evident. The key point is that the genre concept stresses that there is a set of active agents involved, forming a specific user community, whose identity is expressed in the shared understanding of the specific patterns of their cultural artefacts. As Christopher Alexander foregrounds how the purposeful, sustained participation of inhabitants becomes inscribed in their artefacts, the genre concept highlights how the purposeful sharing of common understandings shapes the distinguishing cultural patterns of specific audiences.

If these four characteristics – user community, communicative purpose, shared understanding, recurrent patterns of form and substance - is an acceptable definition of the significant characteristics of a genre, how do we study the way a certain genre evolves over time? According to Thomas Erickson, this could be done by analysing how socio-technical forces shape its specific patterns of composition. Applied to digital media, the focus on these forces help us understand how the interaction between users and media artefacts shape the specific design patterns of different media. In other words, the focus on socially and technically constrained interaction helps us concentrate on the concrete, community-specific design patterns of the media artefacts examined.

Thomas Erickson notes that genre theory challenges two closely related concepts in the field of Human-Computer Interaction (HCI). Traditional genres, as we know them from printed media, film and television, have a marked separation between the producer and the consumer. The question from the HCI point of view is, if this is an intrinsic quality of what we regard as a genre. When talking about genres, does the role of the consumer always has to stay conditioned by market supply? It is probably true for how we talk about the media in everyday language, that something has to be offered at the marketplace for the general public to assess, if it should be considered as belonging to a genre. But what happens if and when the borders of the marketplace becomes less salient and we are engaged as co-producers in more and more explicit ways? Will our need to talk about categories and context fade away? If we will still need mechanisms for orientation, and if the process of genre-formation indeed feeds on audiences seeking a shared understanding, then the concept of genre might turn out to be even more useful in segments of the media networks where the audience is engaged in a more constructive role.
than in that of the submissive consumer. The insight that our use of the word genre seems to be closely linked to the division of roles of existing market systems leads to another important question about how the future channels for user feedback will be organised as the traditional techniques for monetary and critical feedback are transformed on the World Wide Web and other media networks. Since this question is closely related to the design of devices for navigation and contextual visualisation, I will return to it in the concluding discussion of Part 3. The genre perspective will help me situate the individual projects in terms of user community and purpose. And the concept of design patterns will provide a way to compare the individual technological and formal solutions shaped by user community and purposes with other, related solutions.

Another challenge to established HCI-concepts that Thomas Erickson articulates is the notion that traditional genres evolve slowly. This observation points to the fact that cultural conventions take considerably longer time to emerge than the technological and formal innovations that support them. For the segments of industry that now try to apply a user-oriented focus, this insight calls for an attitude of enduring and self-reflecting attentiveness in a field which is on the whole marked by dynamic change and highly pitched expectations. Even if the tension is becoming more pronounced between the technical and the cultural pace of acceptance, media practitioners are still as dependent on having a close and long-term relationship with their audiences. The longevity of this relationship can be seen as another aspect of the ongoing change in the division of roles between producers and consumers. Even if Thomas Erickson is right in his observation that traditional genres evolve slowly, it does not follow that the socially grounded desire to share understandings, through generic or other kinds of categorization, becomes less pronounced in periods of accelerating change. The temporal aspects of producer requirements to get user feedback, the presupposition that “it has to go faster” adds a dynamic element to the question about how devices for navigation are to be designed.

The observations about the temporal and spatial separation between producers and consumers also have relevance for how the role of the researcher is perceived. Arguments for practical and theoretical benefits of a user-oriented perspective may seem to collide with the academic dictum that scholars should maintain a critical distance to the subject of their study. If scholars identify too closely with the purposes and shared understandings of the user community with which
they work, they run the risk of losing the constructive potential of an informed critical stance. But the foregrounding of user orientation also stresses the diversity of user communities and plurality as a driving force in the processes of technical and cultural innovation. In that perspective, it becomes essential for researchers to have a clear identification with the theoretical traditions of their own disciplines. And the critical understanding should not be reserved for the subject of their study. It should include the institutional settings and the contradictions within academia as well. In that respect, a closer relationship with a community of users could be perceived as an opportunity for a more self-reflective stance. It is difficult to envision how a critical and productive perspective on the academic disciplines can be maintained without social practices that bring in a broad spectrum of user perspectives into the discussion about thematization, methods, tools, and evaluation.

A Cinema studies perspective on the evolution of genres

Rick Altman is one of Cinema studies most respected authorities on genre theory. He has written extensively about musicals and westerns, two of the genres he analyzes in Film / Genre. One of his main themes in the book is the double function of genres as they have evolved within the Hollywood studio system. Genres that reach a measure of stability reconcile rituals with ideology. Altman identifies a “bilingualism” that is born in a phase of accommodation in which “the public’s desires are fitted to Hollywood’s priorities”. This appreciation of the role of the audience as a complex set of user communities that constantly take an active part in the formation of genres resonates well with Thomas Erickson’s outline of the characteristics of the phenomenon. Altman and Erickson both regard genre as a site for negotiation where audiences participate as critical end-users whose judgments can not be overruled without definite repercussions. Furthermore, Altman builds his understanding of the evolution of genres on a sharp criticism of contemporary media theory for what he deems to be an ahistorical account of audience participation. He points to a definite lack of historical context, even among those scholars who write about audiences as active agents of interpretation and involvement. The overt participation of concrete audiences may be accounted for, but their interplay with the innovators of media content and form is not detailed in any way. Neither is the interplay between the followers of one media cycle and the supporters of other,
competing cycles. The end result is that the evolution of media cycles and genres as a social process is dimmed.98

As in the articles of Thomas Erickson and other scholars who share the user-oriented perspective, the answer to this constrained view of the role of the audience is – the awareness of diversity. As soon as it is recognized that all user groups are formed in close interaction with other user communities, then it becomes obvious that the dimensions of time, transformation, and negotiation are essential for the understanding of how genres evolve. What Altman makes clear is that, whenever new cycles of media content and form are recognized as sustainable genres, there has been a complex web of intricate dialogues performed between the innovators and their audiences. A whole range of audiences have been consulted, and re-consulted, before the social entity of a genre can emerge in the eyes of the public.

Altman’s scope is that of a history of media composition and reception. His main examples are picked from the genres of musicals and westerns and the book as a whole gives lively insights into the inner workings of the Hollywood studio system. In an appendix to the book, he offers an analytical account of his theory of genres. Here, the relative autonomy of a genre is explained in terms of the interplay between semantic, syntactic, and pragmatic regularities. As these concepts reveal, Altman’s approach is firmly based on a linguistic framework. After describing how meaning is discerned on the levels of phonemes, language, and text, Altman asks himself how meaning is discerned on the level above the textual meaning. He notes that the actual meaning arrived at on each level is heavily dependent on the broader meaning discerned on the levels above. This makes the level above the textual meaning, which Altman identifies as a social, pragmatic level, even more urgent to study. And he finds the clue to this level in what the linguists call “pragmatic analysis”. In this kind of analysis, the essential constituents of meaning are arrived at through repeated, gradual abstraction of sentences until they reach a level of meaninglessness for the users concerned.99 In reference to this kind of pragmatic analysis, and to his earlier approach which focused solely on the semantic and syntactic levels of regularities, Altman terms his new framework “a semantic-syntactic-pragmatic approach”.

To my mind, the importance of Altman’s contribution lies in the overarching perspective he employs which spans all the key agencies of promoters, innovators,
Genre as Embodiment of Design Patterns

distributors, audiences and, last but certainly not least, the agency of the media artefact itself. Altman proposes something that could be called a crystallography of mediated meaning where intricately interrelated patterns of meaning quite literally put their spell on the particular audience towards which they are aimed. To emphasize the social directedness of genres, Altman himself illustrates the evolution of genres in terms of ethnography. In this illustration, nomadic tribes, engaged in the noble art of poaching, claim and alter the symbolic capital of other tribes, just to see their own newly created capital turn into a target for still new tribes, as soon as it has acquired the status of a liquid currency.100

As noted above, Altman’s understanding of the dynamics of interrelated user groups resonates well with the design paradigm proposed within the user-oriented IT design disciplines. The common understanding seems to be that what makes media innovators successful is that they manage to listen, in a constructive way, to the diverse and seemingly contradictory demands of many different audiences. Such an interpretation confirms a central tenet in the Scandinavian tradition of design for human-computer interaction in which the participation of a broad range of different categories of end-users is one of the hallmarks. According to this tradition, all the diverse categories of users of a particular design artefact have a say, as far as the shaping of the artefact goes. It is up to the innovators and designers to listen to them all at once, and to try to articulate their unspoken concerns.101 This is also where the constructive potential of design patterns becomes evident. As the complexity of media technologies grows, so does the range of possible applications and interpretations of the media artefacts. In the face of the broad range of latent audiences and user communities, the need is growing rapidly for a common language in which we can share design experience. My belief is that pattern languages can become one such common ground, in which the relative continuity of thematic and syntactic composition can be traced. If the HCI-perspective of Thomas Erickson provides a dynamic direction to the original Alexandrian concept of patterns of design, then, in my view, the Altman perspective contributes with a clear analysis of how this dynamic works on many levels simultaneously. Not only on the ritual and ideological levels, but on semantic, syntactic and pragmatic levels that can be traced in, and even more importantly, between the artefacts themselves.
Genre as manifestation of rhetorical and narrational patterns

The Alexandrian concept of patterns of design deal with how citizens move within and between different parts of social life on the physical and material levels. It amounts to a poetic, descriptive, and argumentative account of recurrent patterns of construction with proven value. The interpretation of genres as mediations of such patterns, in which communities share their common understandings, clarifies the dynamic aspects of how these patterns of composition change over time. Through the agency of socio-technical forces (Erickson) or, in linguistic terms, on the level of pragmatics (Altman). The focus is still on the interplay between form and context, even though the terminology may foreground “regularities in form and substance” (Erickson) or “semantics and syntax” (Altman). But there are other levels of symmetries within genres. Narrative patterns give them formal coherence and rhetorical patterns provide social direction. To conclude my outline of a pattern-informed, genre-oriented framework, I will comment on some of the most interesting remarks made on those subjects in relation to digital media.

Scholars of literary theory have written extensively about the parallels between the formal characteristics of modern literature and the structural developments in media technology. A recent contribution is made by Espen Aarseth who gives a valuable overview of the central debates and some very useful terminological distinctions between the traditional linear text (codex), hypertext, and cybertext. Even if the media of moving images is not one of Aarseth’s central concerns he examines the consequences of digital techniques of sharing texts for the overall reader/user experience and his examples include visualisation as one crucial component. In respect to the technological status of the media, he shows convincingly that a text does not require to be digital to be called a cybertext. The crucial aspect is the kind of user action involved in the interplay between text, medium, and user. In his terminology, a cybertext requires the user to take part in the acts of authoring or reconfiguration, while the hypertext requires explorative engagement as an extension of the traditional text, in which the attention is given mainly to the act of interpretation. In this user-oriented taxonomy, books like I CHING and CENT MILLE MILLIARDS DE POÈMES by Raymond Queneau both qualify as cybertexts. Aarseth proposes the term ergodic (from the Greek words ergon and hodos meaning work and path) to highlight the role of a sustained practical user effort. With this term, he also sets out to qualify the role of the narrative in the text.
After having noted that the terms fiction and narrative are often used as synonyms, even if they belong two different types of categories, (most factual accounts are as dependent on narrative as fictional literature), he sums up the relationship between hypertext, fiction, and narrative.

Fiction, it seems to me, should be regarded as a category not of form but of content (i.e., the same sentence might be fact or fiction, depending on its reference). Narrative, on the other hand, is a formal category, even if its definitions may vary. Hypertext can therefore well be fiction without being narrative; it can simply be fiction in a different form. (...) Thus hypertext is not a reconfiguration of narrative but offers an alternative to it, as I try to demonstrate through the concept of ergodics.103

Even if Aarseth's point is accepted, that hypertexts should be viewed as an extension of the contexts for narrative, rather than a reconfiguration of it as such, it does not necessarily follow that an awareness of the narrative aspects of individual texts becomes less important or interesting.104 User expectations has to be met in digital media, too, even if they are radically different from those pertaining to a book or a film. Anticipation on the part of the audience/participants has to be established and maintained by paying attention to temporal, spatial and intentional continuity. However, the concept of narration alone does not help answer the broader questions of the relation between audience/participants, content and form. And this is where the notion of genre becomes relevant. Putting the focus on the communicative purpose of the design can help contextualise the narrative aspects in fruitful ways. While the focus on narrative can be said to emphasise the originality and craftsmanship of composition and continuity, the focus on genre emphasise the underlying questions of communicative purpose, shared understanding and generative patterns of design. Since the pattern of narrative continuity of a certain genre can be considered to be one of the key patterns that provide it with a syntactic coherence, the regularities of those patterns is of obvious interest in order to reveal its relation to other neighbouring genres.

The perception of the user community as a purposeful agent involved in the formal construction of media artefacts highlights the rhetorical perspective as a relevant aspect of a genre framework. If the rules for a convincing argumentation has been proven valid for two millennia and for a wide range of media, it seems to be a safe proposition that these rules will be as valid for digital media. But, as with
the narrative patterns, the context in terms of instrumental user interaction will change. Depending on user community, its shared values and the specific socio-technical forces at play, we can expect distinct formal patterns for argumentative design to evolve that answer to those requirements. A recent remark on the persuasive power of historical accounts comes from an economic historian. In *If You’re So Smart – The Narrative of Economic Expertise*, Donald N. McCloskey analyses the rhetoric of one of “the discourses of sobriety” – economists performing their own genre of textbook presentation. The key elements in his Aristotelian based analysis are: the Facts, the Logic, the Metaphor and the Narrative. One of the chapters has the title “The Poetics and Economics of Magic” with the subtitle “The story uncriticized by a metaphor or the metaphor uncriticized by a story is magic, against which economics warns”. Here, McCloskey maps out the activities of economists in terms of their more or less mature adherence to the established rules of rhetoric.

Grown-up economics is not voodoo but poetry. Or, to take other models of maturity, it is history, not myth; politics, not invective; philosophy, not dogma. A correct economics – which is to say, most of the rich conversation of economics since Adam Smith – is historical and philosophical, a virtual psychoanalysis of the economy, adjusting our desires to the reality principle. On this score Marxian and bourgeois economics can be similarly childish in giving in to temptation. The quote brings Altman’s notion about the bilingualism of mature genres to mind. And according to McCloskey, the genre of economics has a bilingualism that, at its best, extends it not only to poetics but to history, politics, and philosophy. In the end though, its hardest test is the same as that of Altman, “adjusting our desires to the reality principle”. Another observation that can be inferred from McCloskey’s analysis of the relation between metaphor and story is that these elements just do not match in any arbitrary way. His more pointed notion is that there is a reciprocal interplay between the metaphorical and the narrational patterns of the argumentative design. In other words, understanding the rhetorical aspects underlying what McCloskey calls “the metaphor” of a given text, in terms of what values it is trying to convey, can be said to contextualise narration. If there, indeed, is a reciprocal regularity in the interplay between argumentative and narrative patterns, then individual genres could be seen as integral manifestations of successfully adapted rhetorical patterns. They are “rhetoric come true”. If they really evolve, and people
recognise them, their underlying patterns have been tested the hard way and proven to be generative. This does not say much about how the narrative structures and the rhetorical tropes interplay and evolve in different genres, it only directs our attention to their historical situatedness in terms of the user community and the socio-technical forces that condition their evolution. And this, in turn, suggests that there can be a certain diversity of narrational and rhetorical patterns that can coexist within the individual genre.

It is interesting to note that Espen Aarseth also arrives at an argument about rhetorical tropes when he sets out to analyse the narrative structures of a compilation of concrete hypertexts. As he concentrates on experimental literature that explores the new cognitive environment of hypertextual system, it is not surprising that the two distinguishing tropes he identifies are those of the aporia, the lost sense of a whole, and the epiphany, the unexpected revelation: “What we identify as fragments (what looks like fragments of a narrative), or rather the act of (false) identification itself, makes us look for a whole even if there is no evidence that the fragments ever constituted such a whole. (...) Complementary to this trope stands another: the epiphany. This is the sudden revelation that displaces the aporia, a seeming detail with an unexpected, salvaging effect: the link out.”107 While these tropes may be more characteristic than any specific narrative pattern of the experimental hypertextual genre, we can (hopefully) expect other tropes in documentary genres that work in similar ways as markers of contextual belonging. The significance of some of these tropes, figures, metaphors – with a broader term rhetorical patterns – for the identification of generic belonging will be discussed in relation to the different examples in Part 2.

If we leave the definitions of literary theory for the everyday vocabulary of non-specialist users, the wide acceptance of the word genre can be taken as a sign of the usefulness of a concept that can group many, relatively different, narratives together in flexible ways. The word functions as a transitory and provisional signifier, in everyday language as well as in more formal discourse. It has proven its usefulness in the popular critique as well as in the analysis of literature, film and television. In Making Meaning, Inference and Rhetoric in the Interpretation of Cinema David Bordwell argues for the necessity of categorising schemes: “Critical interpretation splendidly exemplifies the importance of categories in problem-solving. The critic cannot treat the text as absolutely unique; it must belong to a larger class.”108 But he also underscores what Boris Tomashevsky’s wrote seventy years ago about the
ephemeral character of all such classification schemes: “No firm logical classification of genres is possible. Their demarcation is always historical, that is to say, it is correct only for a specific moment of history.”¹⁰⁹ A more recent statement to the same effect is Ted Nelson’s words about the role of categories in hypertextual structures, “there is nothing wrong with categorisation. It is, however, by its nature transient: category systems have a half-life, and categorisations begin to look fairly stupid after a few years.”¹¹⁰ In historically oriented media studies that focus on changes in technological, thematic, and formal patterns, this situated character of the categorisation schemes is of crucial importance. When trying to grasp the essential patterns of today’s emerging digital media, an obvious pitfall is to build too narrowly on the existing schemes of classification. The conceptual framework and the tools for analysis has to be questioned iteratively in a dynamic dialogue across disciplines and trades.

So far, I have quoted some recent approaches from the fields of Literary theory, Economic history, and Cinema studies that all seem to confirm the usefulness of the proposed generic framework – that specific user communities are the bearers of genres, that the thematic and formal patterns that characterize the individual genre are intricate expressions of the communicative purpose of its user community, and that the process of sharing these patterns is that which provides it with emotional and interpretative coherence. Before I assess this framework in relation to some of the theoretical concepts of non-fiction film, I will relate it in some more detail to one specific conceptual framework used in the analysis of fiction film.

In The Classical Hollywood Cinema, Film Style & Mode of Production to 1960, David Bordwell, Janet Staiger, and Kristin Thompson have mapped out crucial aesthetic devices in one of cinema’s dominant styles. Recurrent patterns (the authors alternatively use the terms “elements” and “devices”) such as Centred framing, Continuity editing, Movie music, Three-point lighting, and Dissolves all interact in more abstract, composite patterns (“systems”) that regulate Narrative, Space, and Time, systems which are themselves interacting according to the overall, dynamic pattern that we recognise as classical Hollywood style.¹¹¹ “We can, then, characterise the classical Hollywood style by its stylistic elements, by its stylistic systems, and, most abstractly, by the relations it sets up among those systems. No single level of description will work. It is too narrow to define classical norms by

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devices, and it is unwarrantably broad to define them solely by relations among systems. (...) The specificity of the classical style depends upon all three levels of generality.\textsuperscript{112}

This brief summary of one of the most comprehensive books on the Hollywood style broadens the Altman perspective on some of the typical Hollywood genres. I have written it in the terminology of a pattern-informed framework in order to test the usefulness of the underlying Alexandrian concept of interlinked patterns of design. Not only is the resemblance in overall structure striking, there are confirming arguments about the usefulness of the concept of “patterns” in Bordwell’s later book, \textit{Making Meaning}. Here Bordwell in one chapter makes an empirical study about how scholars write about one specific film. By analysing their texts in the light of history he identifies a set of heuristics that build on cognitive schemata. The concept of “schemata” turns out to be very close to that of “systems”, as it is used in the Hollywood study. It is also very close to the concept of patterns. Indeed, in the Hollywood study Bordwell defines schemata as “traditional formal patterns for rendering subject matter”.\textsuperscript{113} Moreover, in \textit{Making Meaning}, Bordwell is quite open to the exact status of schemata: “Whatever we call such structures – frames, scripts, models, or, as I shall here, schemata – they centrally mediate our cognitive activity.”\textsuperscript{114}

The concept of schemata is at the heart of Bordwell’s concern. It is an abstract concept that depicts how we as viewers and (co)producers grasp meaning – a concept that is flexible enough to accommodate recurrent characteristics, but specific enough to reveal variation. And the focus of his attention is the practical, compositional dynamics of these “schemata”. On an abstract level, like the “systems level” of Narration, Time, and Space in the Hollywood study, Bordwell’s goal is “to examine how the personification schema allows the spectator to construct character, how the grasping of setting relies upon spatial routines, how the trajectory schema yields inferences about causality, temporality, and parallel agents or actions.”\textsuperscript{115} Just like in the Hollywood study, Bordwell’s deep-focus attention to practical compositional routines also reveal how the interplay between the high level patterns are shaped by the endless variation of the combination of basic practical design patterns: “Analytical editing, the notion of the protagonist, character centred causality, the long take, on-screen versus off-screen space, the concept of the scene, crosscutting, and diegetic sound are middle-level concepts which sur-
vive changes in theoretical fashion because they mesh tightly with the phenomena. They are our primary analytical instruments, and their usefulness lies in the fact that they capture real and significant choices faced by filmmakers and viewers.  

Since my primary aim here is to propose a framework for pattern-informed genre analysis, I will not further discuss the theoretical advantages of employing a unified pattern framework as an alternative, or even a complement, to the established approach of focusing on cognitive schemata. What I will have to do however, is to conclude that the pattern-informed framework seems to be a possible and viable approach, among others, in further studies of practical cinematic design. Their seems to be a relation of “non-contradiction” between the proposed framework of pattern-based genre studies, as I have presented it here, and one of the central lines of thought in the current theory of fiction film. The observation that Bordwell actually defines schemata in terms of patterns, and that he points to the historical situatedness of all such abstract definitions, can be noted as two important points of non-contradiction. We can also observe that his purpose is to identify recurrent characteristics in practical cinematic design, and that this leads him to identify more abstract patterns of interplay as that which provides variation and generic richness. These observations all point to a strong parallelism between the approach of Bordwell and his colleagues on the one hand, and the approach of Christopher Alexander and his interpreters on the other hand. In Part 3, I will discuss this parallelism further, its significance for the studies of documentary genres and, specifically, its common focus on the complexities of practical, technological design.

Modes of representation and the concept of genre

The concept of genre is not widely used in the literature of non-fiction film. Instead, the term used is “mode of representation”. One influential scheme of identifying different modes of representation have been proposed by Bill Nichols. In Blurred Boundaries he describes six distinct modes, starting with the fiction film of the 1920s as a point of departure and marking what he calls the “possible deficiencies” of each mode with a minus-sign:
Hollywood fiction
- absence of “reality”
Expository documentary (1930s): directly address the real
- overly didactic
Observational documentary (1960s): eschew commentary, observe things as they happen
- lack of history, context
Interactive documentary (1960s–70s): interview, retrieve history
- excessive faith in witnesses, naïve history
Reflexive documentary (1980s, formal and political): question documentary form, defamiliarize the other modes
- too abstract, lose sight of actual issues
Performathe documentary (1980s–90s): stress subjective aspects of a classically objective discourse
- possible limitations: loss of referential emphasis may relegate such films to the avant-garde; “excessive” use of style

The list amounts to a description of each mode’s formal traits and how these traits eventually tend to turn into deficiencies. In relation to the concept of genre as discussed above, what is not described is: the regularities of substance (thematics), the communicative purpose (in more concrete terms than hinted at in the list), the discourse community and the shared understanding of the characteristics that underlie the respective mode. Although all of these aspects are touched upon and discussed in reference to individual films, the need to concretise certain groups of non-fiction films in terms of genre is never explicitly stated. What is discussed is some of the problematic aspects of the concept of modes. That they blend, that they are non-exclusive and never “pure”. Nichols notes that his understanding of “modes of representation” is very close to that of genre:

Modes are something like genres, but instead of coexisting as different types of imaginary worlds (science fiction, westerns, melodrama), modes represent different concepts of historical representation. They may coexist at any moment in time (synchronously) but the appearance of a new mode results from challenge and contestation in relation to a previous mode. And a new
mode may attempt to serve a different purpose from that of a previous mode or it may seek to address a deficiency or problem. Almost certainly it will simultaneously create new ones as well.118

This characterization of “modes of representation” is very close to how Rick Altman talks about genre. The driving force of both entities is the same—opposition against certain established principles of discourse. They are both understood as expressions of purposeful communicative actions. The concepts of modes and genres also share the status of being intimately tied to their historical situatedness, to the point that they are both contested at the same time as they emerge as perceptible entities. One difference between the concepts may be their separate scope. Nichols writes about categories that seem to be more on the level of Bordwell’s styles. His list of major modes of representation starts with Hollywood fiction as the original mode being contested by the Expository documentary. Another contrasting aspect between genres and modes in the Nichols quote pertain to their different subject matter. The former deal with “imaginary worlds” while the latter are “concepts of historical representation”. One way to interpret this contrast is that modes of representations are something more precise and constrained, namely those genres whose explicit (or clearly implied) purpose it is to present its content as representations of the historical world, in a language that shares its syntax (or at least key elements of it) with other historical representations, to the extent that its audiences regard it as such.

In any case, whether the word modes should be reserved for explicit historical programming or not, there is a wealth of observations in this and Nichols’ earlier book that can deepen our understanding of documentary genres and modes of expression.119 Thus, he details not only the community of documentary filmmakers but also the constituency of viewers and the institutional practices that regulate financing, production, and distribution, (the user community with its division of labour). In respect to formal patterns (regularities of form, syntax, schemata) he closely investigates the relation between narrative and rhetorical structures and how an array of expressive devices are used in a broad range of films. In Representing Reality Nichols devotes a chapter to what he calls axiographics, the study of how values come to be experienced in relation to space, (from axiology, the study of ethic, aesthetic, and religious values; in respect to genres denoting the shared understanding of communicative purpose). This makes his book an important source
of concrete observation and I will return to some of his notions in both the Examples and the Discussion part of my study.

Michael Renov is another documentary scholar addressing the question of categorization. In THEORIZING DOCUMENTARY, Renov rethinks the taxonomy of Nichols, stressing the functional aspects as a more profound dimension for understanding the different modes of representation. When envisioning a “Poetics of Documentary” he points to the fact that the desire for knowledge is not the only desire that audiences seek to satisfy in non-fiction film, an observation which the timeless popularity of documentary genres like nature, sports, and musical programming forcefully confirms. The four “fundamental tendencies or rhetorical/aesthetic functions” that Renov identifies are:

1. to record, reveal, or preserve
2. to persuade or promote
3. to analyse or interrogate
4. to express

This outline of the range of communicative purposes suggests the broad spectrum of expressive possibilities in documentary film. It also helps us recognize the complexity of emotional expectations and how different audiences/viewers/users project them in relation to a quest for “knowledge”. The needs of specific audiences or communities of users is not explicitly within Renov’s scope of investigation. But the emphasis on the common understanding, the actual reception and acceptance of formal conventions, foregrounds the emotional intricacies of a historically situated “desire”. As in Nichols’ texts, the thematic aspects of the films investigated is not a main point of reference. On the other hand, in these texts neither Renov nor Nichols sets out to examine particular groups of films and how they are used by particular audiences with their historically situated communicative preferences and purposes.

To conclude the introduction of my conceptual framework I want to stress the need to find common characteristics between media artefacts in a systematic way that emphasize thematization and shared values among audiences. Current uses of factual moving images in digital media range from news-oriented video features (national and international politics, business news, sports etc) and scientific visualisation (weather, demographics, economics, engineering etc), to digital
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remakes of successful documentary formats and complex, non-linear narratives where the moving photographic image is but one of the expressive forms employed. It has been noted that digital media tend to bring a broad range of diverse themes together into converging sets of homogenized media flows. This convergence forces people from different disciplines and design traditions to reflect upon their roles as specialists. Simultaneous specialization and homogenization urges all of us, in our multiple roles as viewers, critics, and collaborative users/producers, to try to understand the special vocabularies of each other. We need common concepts to be able to build common grounds for empirically informed discussions about genres, rhetoric, narrativity, and stylistic patterns. The importance of the role of the university as a guiding mediator in this inter-disciplinary discussion can hardly be overstated.

The identification of documentary genres has to be done with caution. Genres should be kept non-exclusive, not to loose sight of their overlap and the dynamic interplay between them. The growing interconnectedness between different categories of “programs” corresponds to a blurring of institutional boundaries in most realms of society – the social, the economic, the technological, as well as the cultural. It can be argued that it is this intensification of institutional interplay that ultimately calls for a corresponding explicit interaction between different discursive traditions. In this broader context, the collaborative identification of common patterns of rhetoric and genre may prove helpful when neighbouring disciplines, faced by “economic” or other institutional necessities, has to re-evaluate their common institutional borders.

In the area of media research and development, there are strong divergences in the emphasis on theory versus practical training between different institutions. However, in highly inter-disciplinary environments, some of the practical, almost manual-like literature from the field of Computer Science may soon end up on syllabi in media studies and give a deeper understanding for how engineering can contribute to new innovative applications of media equipment. At the other end of the spectrum, critical literature on the history of cinematic technology may contribute to a broader context for engineers who examine new communication technologies. In view of the dynamics in the field, there is a whole range of fruitful opportunities for cross-fertilisation between the more practically and the more theoretically inclined genres of media studies. The philosophically oriented field of Cinema studies may not distance itself from such an interplay. And the practical
reporters on new media features may not deem the critical writings as strictly historical and philosophical.

These remarks on the practical opportunities for inter-disciplinary cross-fertilisation seem to be relevant for the practical studies of most documentary genres. This is not to say that they are equally relevant for the producers of all kinds of non-fiction film. In a broad polarity between programming that focus on the individual on the one hand, and programs that deal with the complexities of society as a whole on the other hand, it is probably the latter categories that first will benefit from broader dialogues. Producers and critics of genres that focus on existential issues of the individual will probably continue to receive more of their inspiration from contemporary literature and the arts than from the dialogues between philosophy, sociology and economic history. On the other hand, producers and critics who try to grasp social and intra-personal relationships in explicit ways may feel more inclined to take part in conversations between scholars from the human, social, and natural sciences.

**Tracing the reception of generic patterns**

The overview of how the concept of genre is used in different research traditions will conclude with a note on receptions studies, a direction within Cinema studies that has much in common with user-orientated research as it is performed within HCI studies. As I underscored in the presentation of Rick Altman’s work, the genre perspective has the opportunity to grasp the totality of many interrelated processes of production and reception. Its raison d’être is that it does not only focus on producers, neither only on artefacts, nor only on the reception of these artefacts. But, as I have argued in the chapters about User orientation and design patterns, a genre-perspective that is not grounded in an understanding of the communities that share generic values runs the risk of misinterpreting both artefact characteristics and (long-term) conditions of production. In other words, both the Swedish HCI-design tradition and the HCI design pattern approach claim that knowing how “programs” are used in real-life-situations says more about what really counts in the actual program design and in the long-term capability of production efforts than what those alternative starting points may yield. This is why I think it is correct to say that reception studies, in Cinema studies as well as in HCI studies, have a close relationship to the concept of genre.
What would be the fruitful contributions of reception studies attuned to a pattern-informed genre perspective? A general answer, I think, is that it is within receptions studies that the bulk of empirical work has to be done that documents the processes of articulation and negotiation within which identities, values, and conventions are recreated. It is here that, with Altman’s term, the pragmatic studies have to be performed that reveal the web of institutional and compositional patterns that stay the same, or become renewed, when old genres are contested by waves of new programming. Such pragmatic studies have to rely on combinations of many research techniques, such as participatory observation, interviews, surveys, and textual analysis – not only of the media artefacts themselves, but of production documents that condition their design and, specifically, audience, sponsor, and critical appraisals that confirm their essential qualities.

The scope of this thesis has not allowed any thorough examination of how the example documentaries have been received by their respective audiences. However, in my first and last example, where I present early documentaries and shared 3D environments respectively, I have moved a few steps in that direction. In the first example, I take the critical appraisal of Humphrey Jennings’ films, as expressed by contemporary film historians, as a testing-ground for my hypothesis that the concept of compositional patterns is not only in line with other scholarly perspectives, but that it may contribute with new practical insights. In the last example, the audience/user/participant reception of a digital environment is accounted for. This chapter is a report from a three year design project in which I, as a member of the design team, have engaged in monthly, if not weekly, demonstrations, arranged in order to demarcate conditions of usability for this still very futuristic media environment. Although it is not a reception study in the traditional meaning of the word, this chapter exemplifies one way of trying to ground an individual media design in the explicit demands of a particular user community. The centrality of reception is highlighted by showing that the actual grounding of concrete designs is done through recurrent user-tests performed within the chosen user community.

My appreciation of the importance of reception studies is also mirrored in the fact that it is only in the two examples where I have taken steps towards concrete user settings I have felt sufficiently knowledgeable to elaborate, in detail, two compositional patterns. (Public point-of-view, identified in the Jennings example, is described in the section “Interdisciplinary applicability”, and “Time-layered build-
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In an earlier chapter, I introduced Robert Allen’s and Douglas Gomery’s term “the principle of noncontradiction” as it is presented in Film History, Theory and Practice. This study is of great interest from the design pattern perspective since it employs “generative mechanisms” as one of its other key concepts. “As a theory of science, Realism posits generative mechanisms as the objects of scientific study and regards reality as an open system. While Realism maintains that the generative mechanisms responsible for specific events have an existence independent of the mind of the scientist studying them, it also stresses the role of theory in providing testable models for explaining the operation of generative mechanisms and their interrelation.”

In a case study, “The Beginnings of American Cinema Verité” they demonstrate how generative mechanisms on four levels – technological, economic, political and aesthetic – interacted to support the emergence of that kind of film at that particular moment in North America.

My point here is not to discuss correspondences between the terms “generative mechanisms” and “interaction patterns” but to exemplify the rich insights the former concept reveals when applied to a dynamic period in the history of media. The broadcasting of controversial documentaries such as YANK NO! and The Children Were Watching on the ABC network in the early 1960’s turns out to be the result of interacting processes on many levels. The acting agencies Allen and Gomery account for include: lingering political influences of the Roosevelt administration, a tradition endorsed not least by a critical press, personified by authors like Walter Lippman; the Congress and the Federal Commission of Communication (FCC) who are called upon to stifle a wave of scandals in network television, calls that result in recommendations for a set quantity of public interest programs to be aired in prime time; advertising agents and buyers who name documentaries second only to hard news programs when asked about audience appeal; Bell and Howell as manufac-
turer of film equipment and as a company that takes “a more responsible position on the burning issues of the day”. These and other agencies constituted an outer set of “users” that, along innumerable audience groups, conditioned the reception of what the ABC network and its contracted documentarists were to produce.

Allen and Gomery goes on to identify that ABC was the network most in need for a reorientation and they identify three programming policies (strategies or production patterns) that turn out to be decisive: 1. counter-programming (in relation to the competing networks), 2. external production (accepting external productions in the prestigious genre of public affairs), and 3. a pronounced reluctance to editorialise. It is within this overall political and economic setting Robert Drew, Richard Leacock and their colleagues manage to renew the documentary. The development of the technological preconditions is accounted for - the handheld Auricon and its synchronization to the Perfecton tape-recorder - along with the unexpected agencies that supported it. Robert Drew’s background as a reporter/editor at Life magazine is described; his ambition to bring to television “the excitement and spontaneity of the still photo-essay” and his association with Richard Leacock whose ambition was to relate “how things really happen as opposed to the social image that people hold about the way things are supposed to happen”. With acknowledgments given to Italian neo-realism and contemporary British fiction films the authors now reach the aesthetic, formal level – the level on which a set of particular compositional patterns were to answer all these contextual restrictions and, eventually, revolutionize the image of documentary film: “1. Reliance on synchronous sound recording and avoiding the ‘interpretations’ provided by voice-over commentary or music; 2. Minimal interference by the filmmaker in the profilmic event … 3. Avoidance of ‘editorializing’ in the editing process”.126 In my view, the full account amounts to an exemplary reception study of how, for a brief moment in time, processes on many levels came to resonate (sufficiently) with each other in intricate ways.

The Allen/Gomery case-study shows that the empirical reporting of overlapping demands from a multitude of user groups is a necessary underpinning for the theoretical accounting of generative mechanisms on different scales. In this respect, I think the case-study also demonstrates how the traditional innovator-centred perspective that focus on the pushing of small creative groups may be successfully complemented by a user-demand, participant-centred perspective that focus on the pull-and-push of many distributed and parallel agencies. Ultimately, as with
documentaries, the interpretation of the historical report rests with the individual reader. The pragmatic meta-perspective of Altman advises us, not only to register what is expressed and enacted by different agencies, but also to interpret what these symbolic and practical expressions may have meant to all other agencies involved. Even if the result of policies and strategies tend to differ substantially from their proclaimed intentions, we have to take into account that certain expressions of intention may exert an important influence on other participants. The challenge of the multi-level approach is to appreciate that not form alone (given the semantics), neither the enacting of media policies alone, determine the outcome of media practices and reception. It is the interplay between content, form, and practical measures, within a dynamic multiplicity of media practices, that shape each particular media usage. It is up to all participants to ponder their respective role in the ongoing shaping of genres, with Altman’s words “the regulatory schemes that facilitate the integration of diverse factions into a single social fabric.”

William Rothman’s DOCUMENTARY FILM CLASSICS represents a very different kind of reception study. Rothman has worked as a film scholar and been in close contact with many of the filmmakers engaged in the American Cinema Verité movement. He presents a close and very personal reading of some of the films from a philosophical point-of-view that casts new meaning both to the filmmaker’s intentions and to the environment they were working in. With reference to Stanley Cavell, he adds certain popular Hollywood genres, like the comedy of remarriage and the melodrama of the unknown woman, to the list of acknowledgements that has to be made, in order to understand the expressive qualities of Cinema Verité. According to Cavell, these genres owed much of their magic to the transcendental philosophy of Emerson and Thoreau. What is even more thought-provoking is that they were also influential on Ludwig Wittgenstein, who had a devotion for these movies, and who in turn was to become influential for the “ordinary language philosophy.” It is from this perspective Rothman re-reads Richard Leacock’s HAPPY MOTHER’S DAY (1963) and Donn Alan Pennebaker’s DON’T LOOK BACK (1965-67). To exemplify his interpretive insight, and the relevance of it for this thesis in which the patterns of the City play a key role, one paragraph deserves to be quoted in full.

In the thirties and forties, comedies such as IT HAPPENED ONE NIGHT, THE AWFUL TRUTH, BRINGING UP BABY, HIS GIRL FRIDAY, THE PHILADELPHIA STORY, THE LADY EVE, and ADAM’S RIB envisioned a new kind of marriage between a man and a woman,
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one that acknowledges their equality without denying their difference. Such a marriage also marries the realities of the day and the dreams of the night, the realms of public and private, and the worlds of cosmopolitan city and all-American small town. This last point is registered in the films’ insistence that, for the man and woman to resolve the conflicts in their relationship, they must at a certain moment find themselves in a place conducive to the attainment of a new perspective. Shakespearean criticism calls such a place the ‘Green World’, and it is typically located, like Thoreau’s Walden, just outside a major city. Hollywood movies, as Cavell delights in pointing out, usually call this place ‘Connecticut’.129

These words provide a key to Rothman’s revelations of the mythical in the seemingly everyday events that unfold in HAPPY MOTHER’S DAY. Richard Leacock follows the birth of the Fischer family’s quintuplets, the Gypsy Day Parade which offers the first public appearances of the happy mother, the reactions of the father and the children, the photographers constantly gathering around the family, journalists from THE SATURDAY EVENING POST and LADIES HOME JOURNAL, a luncheon arranged by the mothers of the town and a Six-month Anniversary Parade for the Fischer quintuplets planned by the local businessmen. The close reading of how Leacock’s camera renders these events is the result of a multitude of screenings followed by discussions with pupils and with the filmmakers themselves. The pivotal point of the real drama of the film turns out to be the relationship between Leacock’s camera and the mother, Mary Ann Fischer. Throughout the film, Leacock shares his presence with a number of other cameramen that, as it turns out, tell very different stories from his own. This is subtly communicated to us, the viewers, through the reactions of Mrs. Fischer. It is not an easy drama to decipher, it builds slowly only to be resolved in the concluding scene at the luncheon when the secret understanding between the mother and the filmmaker becomes evident. In Rothman’s eyes, this is the moment when Cinema Verité confirms its ancestry, when it proves that its “attainment of a new perspective” separates it from the rest of the media apparatus. “Together, the camera and its subject authorize this shot’s silent summation of her world, which is also a summation of the film. The vision they conspire to create has a nightmare aspect: It is into an oblivious world, a world of oblivion, that this mother’s babies have been born. But it also has the aspect of an affirmation: This is a world capable of being viewed from a transfiguring perspective.”130
The climactic sequence of HAPPY MOTHER’S DAY begins with a camera that, in Rothman’s words “seems paralyzed, fixated, as if it were up to this woman to free it to move on”. It ends with a slow pan over the people attending the luncheon. What has made it move is the moment of understanding. It is this kind of careful registering of camera positions and movements, in relation to the people and to the events they encounter, that makes Rothman’s reading so important. It is a personal reception study where his knowledge of what happened before, during, and after the shooting helps us interpret the deeper values and intentions that guide the filmmakers. In that sense it is an important complement to the Allen/Gomery study in which the interplay of all the diverse groups involved in the first moments of Cinema Verité is outlined. From the point-of-view of pattern-informed studies, Rothman’s study is intriguing in its philosophical grounding, since it casts new light on many of the original Alexandrian pattern descriptions. But also as it foregrounds that the camera, and the camera(wo)man, has to move in certain ways in order to make the underlying patterns s/he wants to highlight visible. The following chapters in which I present my example documentaries will centre on this issue of camera movement, as it is prescribed by the rules of the craft and by the ambition to transcend these rules, in order to show things in a new perspective.

The film historians Allen and Gomery and the “natural language philosopher” Rothman represent opposites in respect to how close they relate to individual film experiences. REFRAMING CULTURE, THE CASE OF THE VITAGRAPH QUALITY FILMS, by William Uricchio and Roberta E. Pearson suggests yet another outline for how a full-scale pattern-informed reception study could be performed. Its subject is the production and reception of five “high-art” films produced by the Vitagraph Company between 1907 and 1910. Hence, compared to the two other studies, the analysis deals with a very different set of films, received in a very different social context, although it is only 50 years that separate the two periods. The years between 1880 and 1920 is a period in North America marked by the sense of a mounting crisis, caused by urbanization, labour unrest, and massive immigration. The challenges to the status quo prompt dominant social forces to apply strategies ranging from state-endorsed violence to attempts to maintain national unity through the dissemination of shared cultural values. And it is in the middle of these force-fields the film industry, hitherto associated with cheap amusement, seeks a new identity. “In the few short years between 1907 and 1913, changes in signifying practices,
economic organization, exhibition venues, and audience composition gained the new medium the approval of many who had formerly castigated moving pictures for fomenting disorder among the “lower orders”.135

The five films investigated brings literary (Dante, Shakespeare), historical (Napoleon, Washington), and biblical (Moses) figures to life. Uricchio/Pearson employ an interpretative method based on intertextual evidence, i.e. directly related textual references combined with indirectly related cultural artefacts (paintings, advertising, stereographs etc). The authors’ aim is to grasp “the dialectical interplay of producers, viewers, texts, intertexts, and context.”134 To achieve that, they build their interpretation on pre-existing intertextual frames. Then they make, what they refer to as, “a speculative leap”. “By roughly estimating the probable exposures of specific populations, we can hypothesize a range of possible conditions of reception and thereby open a route for conjecture about the meanings made by viewers in their interactions with the quality films.”135 The broader theoretical framework Uricchio/Pearson adhere to is derived from Antonio Gramsci’s notion of hegemony, as explicated by Pierre Bourdieu in respect to the class-based conditions of production and reception of cultural commodities. What they look for, in other words, is evidence of spontaneous consent, on the part of certain audiences, to contemporary interpretations put forth by intellectuals and institutions such as the church, trade unions, and schools.136 To narrow their search, they identify “authorized interpretative communities”, with attendant “institutions of cultural reproduction” that “further bolstered the authority of the interpretative communities and perpetuated the ongoing interpretative process”.137 For the historical films, Uricchio/Pearson turn to interpretative communities such as academics, archivists, museums curators, and historical preservation societies.

Uricchio/Pearson’s inquiry results in a wealth of illustrative quotes from community representatives who were actively involved in this crucial development of the film medium. Thus, one spokesperson for The American Library Association was very explicit about the long term benefits of public libraries. “Free corn in old Rome bribed a mob and kept it pacific. By free books and what goes in them in modern America we mean to erase the mob from existence.”138 Whether or not the film medium could work as well as free books was discussed at a hearing convened by the Mayor of New York the day before Christmas Eve in 1908. The New York Herald reported from the hearing: “Clergymen and officers of societies to prevent crime … condemned the nickel theatre as a moral sinkhole and physical
deathtrap, and … those interested in the business … defended them as places necessary for the amusement of the poor and for their moral and educational uplifting.”  

The next day, on Christmas Eve, the Mayor revoked the licences of over five hundred New York City nickelodeons. However, the film industry continued along the line of offering “counterattractions”. Uricchio/Pearson quote a letter from an exhibitor to the trade magazine MOVING PICTURE WORLD. They note that the letter touch “on many of the issues that concern us: the class of the audience, the intertextual associations of signifying practices, and the importance of the proper subjects”. Since three sentences of the letter directly concern three of the key concept of this thesis – shared values of community of viewers, compositional patterns, thematic patterns – these sentences are well worth quoting: “The day that manufacturers elevate their work or reject all that is low, indecent, badly acted, badly staged, etc., and offer only good clean subjects produced with all the care given to theatrical plays, we shall see a new boom. Show houses will not only be found on the Bowery or on the East Side, but in the more refined sections of the city. When this day arrives, we will have a new public able to understand historic films and admire good work.”

Uricchio/Pearson conclude that the film industry, particularly the Vitagraph Company, during these years established a “discursive alliance” with a variety of authorized interpretative communities in order to get their quality films regarded on a par with the Broadway theatre and the learned works of historians. What is more interesting is that they employed a “dual address” in their films, in the hope to reach both the existing audience and “the better classes”. Here, Uricchio/Pearson can show that although Vitagraph publicity implied that not all viewers would have the needed foreknowledge to be able to appreciate the films, the Company was wrong to attribute the films as belonging exclusively to “high culture” – it turns out that figures such as Shakespeare and Napoleon were very much part of the everyday experience of most audience groups at the time.

In their notes on methodology, Uricchio/Pearson acknowledge their indebtedness to the perspective on viewer negotiation deriving from British Cultural studies. However, they declare that they want to go beyond “a textually extrapolated reader predicated on psychoanalytic principles”. With references to Miriam Hansen, Janet Staiger and other scholars, they argue that reception studies has to enhance the psychoanalytical paradigm with historical evidence. Through their intertextually based approach, which allow them to frame alternative (even oppos-
ing) interpretations grounded in a body of intertexts, they claim to be able “to extrapolate historically grounded possible readings.” They conclude that “the reader does not precede or create the text any more than the text precedes or creates the reader. Rather, both result from the dialectical interactions of intertextual and social determinants. The multiple meanings potentially arising from this dialectical interaction point to the contestation and negotiation of texts that might otherwise be seen as part of a top-down social control strategy.”

What could a project along the lines of a pattern-informed reception study learn from these three example works? Uricchio and Pearson examine the formative period around 1910, when the film medium acquired many of its characteristic traits. The Allen and Gomery study examines the period around 1960, when the documentary, as we know it today, acquired many of its distinctive devices. However, my aim in this thesis is to propose a conceptual framework that can span the new expressive forms of digital media. In this context, it is the Rothman study that offers the most appropriate model for how the meaning-making processes can be accounted for. Rothman writes with a detailed knowledge of technical, economical, and political preconditions. (In fact, he contests the Allen/Gomery report in respect to the actual beginning of Cinema Verité, placing it after the brief network affiliation, when the movement had to claim an identity of its own, independent of the established media apparatus.) With this understanding of significant preconditions, Rothman concentrates on the meaning-making moments of the films by openly report his own interpretations. He shares this way of working with many of the scholars to whom I will refer in my account of the first example, the Humphrey Jennings films. But even if the personal reading has to be my main way of making sense of the films’ contexts and formal devices, this should not stop me from identifying a general direction, in which future, more resourceful projects, could be conducted. It is in such projects that the diversity of involved “user-groups” has to be observed, like in the Allen/Gomery study. And perhaps the methodological contribution made by Uricchio and Pearson, to identify frames of intertextuality, shows us how that could be accomplished in practice.

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2 A quote from the invitational keynote speech by John Thackara, Director of the Netherlands Design Institute, to one of the major conferences in the field, Human Computer Interaction 2000 (CHI2000), testify to the broad social scope of todays user-oriented research in which people, rather than computer hardware or software, takes center stage. “People are social, and social context is the key to successful innovation. This is easy to say and hard to do. The interaction of pervasive computing with social agendas for innovation represents a revolution in the way our products and our systems are designed, in the way we use them – and in how they relate to us. We need to rethink our work as the real-time management of highly complex real-world environments in which users become the subject, not the object, of innovation.” (John Thackara “Edge Effects: The Design Challenge of the Pervasive Interface”, CHI 2000, Conference program, SIGCHI, New York: ACM, 2000, page 39).
3 The website “USOR”, compiled by Fredrik Winberg at CID, (http://www.nada.kth.se/cid/usor, accessed 2001-10-16) gives an overview of current methods for user-oriented research and development. It presents current methods from the point of view of three main aspects, Activity; User involvement, and Goal, each further divided in three to four sections, in which the current methods get classified along with short descriptions about practical application, the kind of results it provides, its benefits and limitations, and further reading. On the other extreme, the detailed handbooks, such as Handbook of Human-Computer Interaction, (Martin G. Helander, Thomas K Landauer and Prasad V. Prabhu ed.; Amsterdam: Elsevier Science B.V., 1997) comprise 62 articles under the headings: Issues, theories, models and methods; Design and development; User interface design; Evaluation; Individual differences and training; Multimedia, video and voice; Programming, Intelligent interface design and knowledge-based systems; Input devices and design of work stations; CSCW and organisational issues.
4 Susanne Bodker, Pelle Ehn, Dan Sjögren & Yngve Sundblad “Co-operative Design – perspectives on 20 years with the Scandinavian IT Design Model”, CID report 104, (Stockholm: KTH, 2000). A central theme in recent conferences on Computer Support for Cooperative Work (CSCW) has been the need to bridge the gap between techno-talk and ethno-talk. Lydia Plowman and colleagues argue for an adaptation of ethnographic theories through admitting “hybrid theories”, in Proceedings of the Fourth European Conference on Computer-Supported Cooperative Work 1995 (Dordrecht: Kluver Academic Publishers, 1995), 321-322. This line of thought is further developed by, among others, John Bowers who has compiled three of his papers on Virtual Environments (CVEs) in the CID report “Collaborative Virtual Environments, Grounding Design and Evaluation in Social Scientific Analysis”, CID report 9, (Stockholm: KTH, 1997). The papers give in-depth examplification of how qualitative, interpretive analyses may be applied to investigate how users deploy their communicative competencies in such environments, how ethnographic observations can complement such methods to examine the social interaction within both the virtual and the real world,
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and how this kind of ethnographic techniques can be applied when requirements for CVEs get articulated.

5 An interesting example of how video can be used to prepare lively and thought-provoking scenarios is demonstrated by Thomas Bender who invited groups of users in a powerplant to develop their own improvised mockups for more efficient machine control. These improvisations were videotaped and discussed in the team as a ground for more refined scenarios. (Thomas Binder “Setting the stage for improvised video scenarios”, Extended abstract, CHI ’99, 1999, http://space.interactiveinstitute.se/publications/pdf/Thomas_Settingthestage.pdf, accessed 2001-10-16.)

6 Lars Bengtsson ed. Styrning av processer och team (Stockholm: EFI, 2000) discuss, from the Swedish point of view, the prerequisites for a technically advanced system to meet the needs of organisations characterised by decentralized decisionmaking and a high degree of flexibility in respect to how and by whom the work gets carried out.

7 Since CID is hosted by the Royal Institute of Technology, the interdisciplinary profile of the 15 researchers and 13 research students working at the centre in March 2000 is dominated by 13 of these 28 coming from Computer science. But the combined field of Media and Communication, Cinema studies, Fine Arts and Drama is the second largest contributor with 6 scholars, followed by Pedagogy with 5, Psychology and Ethnography with 3 and Industrial design with 1 scholar. Competence profiles from other interdisciplinary ICT laboratories are listed in a report commissioned by the Rockefeller Foundation’s Arts and Humanities Division and written by Michael Century, “Pathways to Innovation in Digital Culture”, (http://www.music.mcgill.ca/~mcentury/PI/PI.html, Accessed at 2001-08-20).

8 For more information on the sponsoring organisations, the universities involved, the trade unions engaged, and the applications tested, see http://www.usersaward.com. See also http://www.tco-info.com (TCO Certification program) and http://www.bus.umich.edu/research/nqr/acsi.html (American Customer Satisfaction Index) for two of the initiatives that have inspired the project and provided it with guidelines for its combined research and development effort. (All addresses accessed at 2001-10-04.) See also CID-reports Gulliksen 2000 and Lind 2000.

9 In her influential book Computer as Theatre (Reading, MA: Addison-Wesley, 1993) researcher/artist Brenda Laurel argued forcefully for media applications that brought the user into a relationship to the computer artefact which more resembled that of the theatrical audience than that of the single, strictly goal-oriented user. The communicative aspects of computer games and experimental artwork have been further analysed by Espen Aarseth in Cybertext: Perspectives on Ergodic Literature (Baltimore, London: The Johns Hopkins University Press, 1997). At the CHI2000 conference, Peter Lucas took yet another step in the directions away from the computer as the centre of attention, arguing that “the ubiquitous computer is a done deal” and that the term Human-Computer Interaction (HCI) should altogether drop the word Computer and declare itself a field for the study of Human-Information Interaction.
The metaphorical image he supplied to foreground process-orientation, at the cost of product-orientation, was this: “it is not the voice that is in the telephone but the telephone that is within the voice.” (“Pervasive Information Access and the Rise of Human-Information Interaction”, CHI2000 Extended Abstracts, SIGCHI, New York: ACM, 2000, page 202.)


In Television Culture (London: Methuen & Co Ltd, 1987) John Fiske examines subversive interpretative activities which he finds are at the heart of subcultural readings of television programming. In “An Archeology of a Computer Screen”, Kunstforum International, Germany, 1995 (http://www.manovich.net/index.html, Accessed at 2001-10-10) Lev Manovich compares the screen of television – which he describes as “aggressive” with a tendency “to filter, to screen out” – with the screens of digital media – which break with this aggressive, totalizing tendency and, through its multiple, coexisting windows, transform the social phenomenon of zapping into one of the inescapable, technically inscribed, viewing conditions for digital media. According to Manovich, this downplaying of the screen as an organising device takes a further step in the typical Virtual Reality application, since “with VR, the screen disappears altogether”. Instead, the instruments for interaction take on the form of head-mounted displays, gloves, and tracking-devices of many sorts, (Page 3.)


In The Network Society, the sociologist Castells carefully analyses the new roles acquired by the institutions of state and civil society in what he calls “the network society”. For historians of economics who confirm important points of Castells’ analysis, see for example John Kenneth Galbraith Män ekonomiska historia, [A Journey through Economic Time, 1994], (Stockholm: Ordfront, 1997) who grounds his detailed account of major economic transformations with explicit reference to the social setting and the self-image of leading decision makers. Ravi Batra Den stora världssonkrybben [The Great Depression of 1990, 1985] (Stockholm: Prisma, 1987) gives an analysis of business cycles that takes an often neglected socio-economic parameter into account, the concentration of wealth.

The MIT MediaLab project “Silver Stringers”, begun in 1996, is an example of how a research institution can tailor a simple suite of networking software to the needs of a local community, the Milano Senior Center in Melrose, Massachusetts. Since 1996, this community has published the newsletter “The Melrose Silver Stringers” on a monthly basis and received both a wide readership and followers in other, similar communities, (http://stringers.media.mit.edu/, Accessed at 2001-08-20). Examples of today’s more technically advanced support for individual tailoring of interfaces to news-based services can be found on the websites of stock-trading firms, such as the Swedish Avanza, (http://www.avanza.se).

For comments on the role multimedia might play in “a growing stratification among the users … leading to the coexistence of a customized mass media culture and an interactive electronic communication network of self-selected communes”, see Castells 1996: 364-372, (the quote is from page 371). In “Reception as flow”, published in John Corner and Sylvia Harvey ed., Television Times, A Reader (London: Arnold, 1996), 187-198, Klaus Bruhn Jensen critically examines, and demonstrates an alternative to, reception studies which are based on the idea of a fully autonomous viewer, and which interprete “the documentation of oppositional decodings of whatever material is shown as evidence of viewer control over the medium”.(Page 187-188.)

Two complementary perspectives on genre will be discussed in more detail in the following chapters. One of them is proposed by the film historian Rick Altman in Film/Genre (London: BFI Publishing, 1999). The other perspective, presented here in its outline since this chapter takes its starting point in Computer Science, has been proposed by Thomas Erickson and other researcher who have been inspired by the explanatory potential of genre-theory from the point of view of cognitive psychology and organisational design. See for example Thomas Erickson “Genre Theory as a Tool for Analysing Network-Mediated Interaction: The Case of the Collective Limericks”, paper submitted to the CHI’98 Conference and accessible at http://www.pliant.org/personal/Tom_Erickson/Genre.chi98.html, accessed 2001-10-16)

That the application of user oriented methods in IT design can, but not necessarily has to be, costly is discussed in Jakob Nielsens’s “Guerrilla HCI: Using Discount Usability Engineering to Penetrate the Intimidation Barrier”, in Cost-Justifying Usability, Randolph G. Bias and Deborah J. Mayhew ed., (http://www.useit.com/papers/guerrilla_hci.html, accessed at 2001-08-20).


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22 Wired Magazine, June 1995, page 138; http://www.wired.com/wired/archive/people/ted_nelson/, (accessed at 2001-08-20). See also http://www.sfc.keio.ac.jp/~ted/, (accessed at 2001-08-20), for an account of Ted Nelson’s contributions that the subject of the story finds more accurate than the article in Wired Magazine.
25 The summarizing report from Lärprogrammet – a major Swedish program conducted between 1992-95, comprising some 40 local projects in which new ideas and methods for professional training were tested – devotes only one of its 30 chapters to the challenge of IT support for learning in the everyday work situation. The chapter outlines the prime obstacles – the lack of user participation in software design, the high level of abstraction inherent in non-user-centered software, and the lack of resources to counter the ensuing disintegration of workplace know-how – and concludes that “a learning-perspective” have only recently been tried in workplace settings and only with fragmented results. Peter Docherty, Lärriket – vägar och vägval i en lärande organisation (Stockholm: Arbetslivsinstitutet, 1996), 92.
26 The quote is from an interview with Douglas Engelbart by the Swedish journalist and chronicler B G Wennersten and translated back from the original wording: “Här ligger en väldig potential. Men för att nå hit är det viktigt att utveckla metoder, procedurer, konventioner och organisatoriska roller tillsammans med de olika verktøy – inte var för sig som så ofta skett hittills. Och ska ett hyperdokumentsystem verkligen vara öppet så måste det till en betydeligt bättre och djupare utforskning av ett antal områden som idag verkar var för sig, men som allra på olika sätt syftar i samma riktning.” Engelbart elaborates his argument with a list a fields within, and adjacent to, Computer science, that has to develop a common vocabulary and a common set of priorities, among them Computer-Supported Cooperative Work (CSCW), Organizational learning, and Total quality management (TQM). Interview with Engelbart published in B. G. Wennersten Bootstrapping – en strategi för att förbättra förmågan till bättre förmåga, Teldok 84, (Stockholm: TELDOK, 1993), 5-11.
27 For overviews of the history of information-technological breakthroughs, see for example Broady 1996 or the chronology supplied at the Cringely website presented in the section “Chronicle of a Community” in Part 2.
29 Ibid. 8-11.
30 Ibid. 18.
31 Ibid. 10 and Color plate 1.
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32 Ibid. 15.
33 Ibid. 10.
34 The Strindberg archive and the mathematics portfolio exemplify two projects within the Interactive Learning Environment at CID.
35 This bold conclusion concerning the state-of-the-art in moving image recording and projection technologies was made by John Watkinson at the Nordic Film and TV Union Conference, April 1999 in Stockholm. For a comprehensive analysis of the converging technologies in the field, see John Watkinson Convergence in Broadcast and Communications Media (Focal Press, 2001).
36 In one of the recent projects at CID, an experimental apartment has been built in which some of the adaptability of current screening techniques has been tested. One of the walls of the living room was partly made up of a transparent screen with backprojection and one of the tables in the kitchen had a flatbed screen attached to it that could be rotated at different angles in order to support video-mediated communication. The experiment is reported in Stefan Junestrand, Ulf Keijer, Konrad Tollmar. “Design Patterns for Private and Public Digital Spaces in the Home Environment”, CID-report 97, (Stockholm, KTH: 2000).
37 All three examples are from papers presented at the CSCW 98 Conference (CSCW 1998 Proceedings, New York: ACM, 1998). In a media perspective these projects highlight questions about who will be allowed to see, and contribute to, what documents through what rules (Van House, Nancy A., Mark H. Butler and Lisa R. Schiff, “Cooperative Knowledge Work and Practices of Trust: Sharing Environmental Planning Data Sets”, pages 335-43); how all members in a team, through the adoption of appropriate visual and navigational designs, can be guaranteed to get access to the information relevant to them in their daily work (Kovalainen, Mikko, Mike Robinson and Esa Auramäki, “Diaries at Work”, pages 49-58); and how work procedures should be represented visually in layout discussions to allow those concerned to understand and contribute with their own design suggestions. (Pycock, J., Palfreyman, K., Allanson, J., and Button, G., 1998, “Representing Fieldwork and Articulating Requirements through VR”, pages 383-392).
38 See the “Pattern Home Page”, http://hillside.net/patterns/, (accessed at 2001-08-21), for an overview of the different contexts in which design patterns are used. See also the homepage of Thomas Erickson, to whom I will refer extensively in the following pages, for links to papers on how the concept of genre can be used in order to grasp evolutionary design processes in the software environment, http://www.pliant.org/personal/Tom_Erickson/InteractionPatterns.html, (accessed at 2001-08-21).
39 How carefully described “patterns of composition”, a concept derived from architecture and Computer Science, can help identify generic context is the subject of the following chapters. “Axiographics”, a term coined by Bill Nichols, is a complementary scheme in documentary studies that may underpin the identification of genres, a scheme which will also be briefly discussed below.
The same reasoning could be applied to individual documentary projects. Will the overall increase in audience satisfaction, due to enhanced visual and navigational support, outweigh the overall increase in time and cost of production? Without a clear picture of how the audience engage with programs in practice it is hard to estimate the long-term benefits of new kinds of audience involvement.


For a general critique of the media industry's underlying structural problems that explain some of the recurrent threats to established journalistic standards, see for example Edward S. Herman and Noam Chomsky Manufacturing Consent: the political economy of the mass media (London: Vintage, 1994). After a decade in which different sectors of the media industry have converged and international conglomerates have been formed in an accelerated tempo (Castells 1996:365), arguments similar to those found in this "classical" media critical text can also be found on the editorial pages of leading liberal newsmedia. As of this writing, Lars Weiss, former head of the News department at the Swedish Public Broadcasting Company, SVT, notes in his column on page 2 in the Swedish daily Dagens Nyheter: "Those who are not seen do not exist. Those who have not spoken – in public, no matter the substance of their message – have stopped talking." ("Sanningen på mediescenen", Dagens Nyheter, 2001-10-05.)

What is particularly dangerous about the contemporary electronic 'guerrilla' is this conflated notion of democracy in which a deep phenomenological ambivalence towards technology and towards capitalism goes unrecognised, if not completely disavowed. Vivian Sobshack "Democratic Franchise and the Electronic Frontier", in Ziauddin Sardar and Jerome R. Ravetz ed. Cyberfutures, Culture and Politics on the Information Superhighway (London: Pluto, 1996), 87.


How Apple’s break-through image-technology “QuickTime movies” has transformed expectations about what moving images can mediate is examined by Vivian Sobchack in “Nostalgia for a Digital Object: Regrets on the Quickening of QuickTime”, Millennium Film Journal, Winter 2000. Sobchack compares the moving images offered by this technology to the “memory boxes” assembled in the art installations of Joseph Cornell and to other “personalized collections of ‘curiosities’” “Unlike big-screen, live-action movies, they draw us down and into their own discrete, enclosed and nested poetic worlds: worlds re-collected and re-membered; worlds more miniature, intensive, layered, and vertically deep than those constructed through the extensive, horizontal scope and horizontal vision of cinema…” Indeed,
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precisely because QuickTime’s miniature spatial forms and temporal lacunae struggle against
(as they struggle to become) cinema, they poetically dramatize and philosophically interro-
gate the nature of memory and temporality, of the values of scale, of what we mean by
animation. In sum, I don’t want them to become ‘real movies’ at all.” (Page 2.) I interpret this
statement as a radical reminder of the meaning-configuring mechanisms of context, that
images take on very different meanings in different contexts. Sobchack also points to an-
other formative technology which supports the QuickTime movie to become “itself”. “Some
other rationale - and phenomeno-logic - operates here: one more associative than hierarchi-
cal, more dynamic than static, more contingent than determined. … Its search engines driven
to the past by a present moment of desire (not utility), this is the eccentric, ever-extensible,
yet localized logic of the hyperlink.” (Page 5.)

46 In “The Anti-Mac Interface”, (published by ACM at http://www.acm.org/cacm/AUG96/
antimac.htm, accessed at 2001-10-10) the two senior HCI engineers Don Gentner and Jacob
Nielsen embark on the task to envision a human-computer interface which will succeed the
only interface they, with Alan Key, find “good enough to be critized”. The user community
they identify as the main stakeholder is an Expert-group of a somewhat unusual and broad
kind: “[P]eople who have grown up with computers … will be able to use (and will in fact, 
demand) expressive interfaces with advanced means of expressing their wants.” (Page 9-10.)
They articulate the new guiding principles, the shared values of this community, by contest-
ring each of the eleven guidelines that have informed the design of the Mac interface. An
enhanced expressiveness that can cater for all the different user communities within this
broad user category, is one of the key principles they arrive at. To this end, the internal,
machine-oriented representation, also has to become richer, embracing dimension such as
author, topic matter, keywords, importance, and interlinked documents. In the context of
this thesis, where languages of architecture plays a major role, the conceptual framework
through which they chose to express these enhanced aesthetic qualities is particularly inter-
esting: “Just as a city designed by a single architect with a consistent visual appearance
would be difficult to navigate and somewhat boring to visit, a variety of visual designs would
make our computer world more interesting, more memorable, and more comprehensible.”
(Page 7.)

47 For in-depth discussions about the relation between documentary film and “the historic
“Document and Documentary: On the Persistence of Historical Concepts” in Theorizing

48 Manuel Castells goes through some of the most influencial interpretations of the relation-
ship between productivity, industrial and national output, cultural infrastructures, and profit-
ability, starting with Robert Solow’s work in the 1950’s. According to the rules of what he
terms “informational capitalism” it is competitiveness that drives productivity growth, rather
than the other way around.” [F]irms will be motivated not by productivity, but by profitabil-

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ity, for which productivity and technology may be important means, but certainly not the only ones. And political institutions, being shaped by a broader set of values and interests, will be oriented, in the economic realm, towards maximizing the competitiveness of their constituent economies. Profitability and competitiveness are the actual determinants of technological innovation and productivity growth.” (Castells 1996: 81.)

49 In the liberal Swedish daily Dagens Nyheter, one of the editors has, for some months, had an ongoing dialogue with the minister responsible for research and education, concerning both the actual resources set aside for basic research in medicine and the autonomy granted the scientific community for reaching their own decision on how to spend those resources. See for example Hans Bergström “Sverige prioriterar medicinsk forskning”, Dagens Nyheter 2001-09-26 page A 2, and Kåre Bremer “Östros bild stämmer inte”, Dagens Nyheter 2001-10-05 page A 2.) Leading scientists have taken part in the debate and at least on the level of explicit political statements, there seems to be a broad consensus in respect to the need for expanded governmental resources, comparable to those of competing nations, and in respect to the necessity for independent decision-making bodies within the scientific community.

50 “Documentary film has a kinship with those other non-fictional systems that together make up what we may call the discourses of sobriety. Science, economics, politics, foreign policy, education, religion, welfare – these systems assume they have instrumental power; they can and should alter the world itself, they can effect action and entail consequences… Documentary, despite its kinship, has never been accepted as a full equal.” Nichols 1991: 3-4.

51 “The creative treatment of actuality” is the phrase John Grierson coined to capture the double challenge of documentarists, to deal with events of urgent social interest in a way that not only authenticates what has happened but that renews our way of comprehending those events. Brian Winston makes this phrase his starting-point of a critical analysis of the problems associated with each word of the phrase, (Winston 1995). On the other hand, Eric Barnouw foregrounds the rich array of creative and investigative stances taken by documentarist from the beginnings of this expressive form. While most of those roles seem to be closer to the “actuality” end of the spectrum – Explorer, Reporter, Advocate, Prosecutor, Chronicler, Observer, Catalyst – others do emphasise the creative side – Prophet, Painter, Poet – and none of the roles is indifferent to the problems of the double challenge. Eric Barnouw, Documentary, a History of the Non-Fiction Film, [1974] (New York: Oxford University Press, 1976).


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55 Rosenstone 1995: 3.
56 Rosenstone captures this potential for alteration of perspective in the terms “visioning” and “revisioning” (Rosenstone 1995: 6), terms which are discussed throughout the anthology in relation to “emotional content” (page 2); to Hayden White’s term historiophoty, i.e. “the representation of history and our thought about it in visual images and filmic discourse (page 157, my italics); and to the desire for myth as explicated by Raymond Williams in his term “structure of feeling”, i.e. a “particular quality of social experience and relationship, historically distinct from other particular qualities, which gives the sense of a generation or of a period”, (page 172, my italics).
57 In the Introoduction to The Persistence of History, Vivian Sobchack confirms that there is a growing, although yet mostly sceptical, interest for how history is accounted for in the media. “One might say we are in a moment marked by a peculiar novel ‘readyness’ for history among the general population. That is, people seem to carry themselves with a certain reflexive phenomenological comportment toward their ‘immediate’ immersion in the present, self-counciously grasping their own objective posture with an eye to its imminent future possibilities for representation (and commodification) as the historical past. … Over the course of the century and at an accelerated pace, first cinema, and then television, camcorders, and digital media have brought both the arbitrary and motivated segmentation of time to public awareness.” Sobchack 1996: 4.
58 Landow’s remark about the parallels between hypermedia and academic texts prompts us to ask how temporality is accounted for, in hypermediated (and in academic) variants of forms such as the diary, the journal, and the chronicle. An important theme in Manuel Castells’ examinations of how global informational networks effect our sense of social awareness revolves around how our experiences of the passing of time tends to get split into two opposing sensations. At the same time, it gets reduced into a sense of overdetermined “flows”, and, contrary to this tendency, Castells foregrounds how purposeful acts of recollection can reinstate a sense of time which is grounded in direct dialogues between people. (Castells 1997: 123.) In the concluding chapters of the thesis I discuss this intriguing challenge to our understanding of time, and how, even in the early beginnings of experimentation, this challenge has been at the core of the documentary project.
59 The effectiveness of a visually rendered spatial dimension that supports user navigation through archives of literary studies can be examined in Intermedia, the early hypermedia project at Brown University that was lead by George Landow and which is carefully described in his book on the parallels between new information technologies and Critical theory (Landow 1992). The outline of this early web of texts and images can be compared to that of a guidebook, complete with maps and details of geographic and national particularities, that help the traveller to get a sense of orientation. Contemplated in the perspective of Castells this early hypermedia experiment abounds with examples of how our ways of making sense of space is intimately connected with our ways of making sense of time.
89

Nichols 1991: 44-47, and 56-61. The interactive and the reflexive modes of representation are discussed in my section “Modes of representation and the concept of genre” and in Appendix 2.

In “The modernist event”, the opening essay of The Persistence of History, Hayden White examines the growing difficulty of today’s society to make sense of “the holocaustal” events of the twentieth century – the World Wars, genocides, depressions, hunger and environmental catastrophes. Grounding his critique on what he finds to be an inability to separate between facts and meaning, he arrives at this conclusion. “The twentieth century is marked by the occurrence of certain holocaustal events that bear little similarity to what earlier historians conventionally took as their objects of study and do not, therefore, lend themselves to understanding by the commonsensical techniques utilized in conventional historical inquiry nor even to representation by the techniques of writing typically favored by historians from Herodotus to Arthur Schlesinger. Nor does any of several varieties of quantitative analysis, of the kind practiced in the social sciences, capture the novelty of such events.” (Sobchack 1996: 21.) Taking “the event” of the explosion in 1986 of the NASA Challenger space shuttle as an example, White goes on to note that “modern electronic media can manipulate recorded images so as literally to ‘explode’ events before the eyes of viewers”. (Page 23.) Endless replays with endless variations of “visualizing techniques” tend to subtract, rather than add meaning. “What had been promised to be a clarification of ‘what happened’ actually produced widespread cognitive disorientation and a despair at ever being able to identify the elements of the events in order to render possible an ‘objective’ analysis of their causes and consequences.” (Page 24.) This difficulty to relate “facts” of discrete “events” to each other in meaningful ways is also discussed by Manuel Castells in his chapters “The culture of real virtuality” in Vol. I (Castells 1996), and “The greening of the self” in Vol II (Castells 1997), chapters that I, in my turn, discuss in the last chapter of my thesis.

Brian Winston quotes Bruno Latour’s story about the “obstinate dissenter” to underscore the increasing centrality of physical instruments of inscription in academia. (Bruno Latour, Science in Action, Cambridge, Mass.: Harvard University Press, 1987.) The dissenter is sceptical about a result reported in a scientific paper and asks the author for proof, which he gets, from a set of devices that promptly produce an exact replica of the contested image in the original paper. Bruno Latour’s conclusion is this: “We are at the junction of two worlds: a paper world that we have just left, and one of instruments we are just entering.” (Page 64) “We are attending an ‘audio-visual’ spectacle. There is a visual set of inscriptions produced by the instruments and a verbal commentary uttered by the scientist.” (Page 71.) Brian Winston’s comment draws the parallel one step further, to an everyday situation we all share: “I would like to suggest that we have reached a place not unlike that occupied by the viewer of a documentary film.” (Winston 1995: 136.) He also supplies a quote from Richard Leacock to illustrate the filmmaker’s view on this not-so-new situation. “When you make an electrical measurement of a circuit, you do it with a volt-meter. Now the moment you do that, you
change the circuit. Every physicist - and I used to be one - knows this. So you design your volt-meter so that very little goes through it. And in a very sensitive situation you need very much less going through it. … The physicist is a very objective fellow, but he is very selective. He’s much more selective than we are. He tells you precisely and only what he wants you to know. All the rest is irrelevant.” (Winston 1995: 160.) The arrival of Espen Aarseth’s recent book, which is a computer-handbook for the Humanities (Datahandbok for humanister, Oslo: Ad Notam Gyldendal AS, 1999), confirms that it is not only the natural sciences that is confronted with challenges from the new instruments of inscription.

Among the current books that have revitalised the discussion on non-fiction film and influenced this study are Michael Renov ed. Theorizing Documentary (New York, London: Routledge, 1993); Bill Nichols Blurred Boundaries (Bloomington and Indianapolis: Indiana University Press, 1994); Brian Winston Claiming the Real (London: BFI Publishing, 1995); John Corner The Art of Record: A Critical Introduction to Documentary (Manchester: Manchester University Press, 1996), and William Rothman Documentary Film Classics (Cambridge: Cambridge University Press, 1997).


Brian Winston examines the methodologies of Ethnographic filmmaking in one of the chapters of Claiming the Real. It opens with the statement: “Although this is not to say much, anthropology more than any other science, natural or social, has employed film as a tool.” (Winston 1995: 170.) He goes on to exemplify what must have been the first instance of the genre, (a film about pottery shown at the Colonial Exposition in Paris in 1895), focussing on the recurrent difficulty of anthropologist to cast their recordings in a form that succeeds to relate a coherent, deeper meaning of the material than what can be gained from the individual sequences. A critical statement from the anthropologist Margaret Mead, made in 1974, sums up these difficulties in a way that also may prove to be valid for practitioners of the new digital tools of observation. “Those who have been loudest in their demand for ‘scientific’ work have been least willing to use instruments that would do for anthropology what instrumentation has done for other sciences - refine and expand the areas of accurate observation. At the present time, films that are acclaimed as great artistic endeavours get their effects by rapid shifts of the cameras and kaleidoscopic types of cutting. When filming is done only to produce a currently fashionable film, we lack the long sequences from one point of view that alone provide us with the unedited stretches of instrumental observation on which scientific work must be based.” (Winston 1995: 175.)


Barnouw 1976: 45.
In one of his most critical remarks on ethnographic film as misrepresentation, Brian Winston sums up the deficiencies in a trilogy produced by Robert Gardner, *The Hunters* (1958), *Dead Birds* (1963), and *The Nuer*: “This trilogy thus documents a gathering people hunting, a pastoral people, now pacified, fighting, and a nomadic people stationary.” (Winston 1995: 174.)

Ibid. 168, 272 n. 18.


Ibid. 60.

Brian Winston forcefully interrogates the hidden purposes of the British documentary movement of the 1930’s and 1940’s. He discards most of their attempts to develop the film medium into an art form at the service of the society at large. (Winston 1995: 24-68.) Still, the originality, the scope and the energy of the movement has to be acknowledged for having paved the way for some of the most long-lived genres of public television and for generations of documentary filmmakers. The heritage of the movement is further discussed in my section “Humphrey Jennings and the British documentary movement” in Part 2.

Eric Barnouw recounts this era of the documentary project under the heading “Guerrilla”, a chapter he concludes with a timeless remark on the role of media technology: “In the 1930’s, documentary functioned in a small way as a medium of dissent. The period of the Vietnam war saw this role played on a larger scale. The rapid spread of film equipment and technical knowledge has led many observers to foresee an even wider, freer use of the medium. When film becomes as cheap as paper, will it not become as universal? Some see such a possibility. Others suggest that techniques of surveillance and control multiply as rapidly as media technology.” (Barnouw 1976: 286.)

Michael Renov “Newsreel: Old and New - Towards an historical profile”, Film Quarterly, Fall 1987; Deirdre Boyle *Subject to change, Guerrilla Television Revisited* (New York: Oxford University Press, 1997).

Both quotes from Winston 1995: 105.

Two of the projects presented in Part 2, *The Day After Trinity* by John Else, and *Our Secret Century* by Rick Prelinger, exemplify interactive audio-visual archives aimed at, among other audiences, history and sociology courses at colleges and universities.


The principle of noncontradiction can be further discussed in relation to the notion of...
“conceptual calibration”, a term used in Computer Science to signify dialogues aimed at forming a common understanding of phenomena. See Ambjörn Naeve, “The Garden of Knowledge as a Knowledge Manifold, A Conceptual Framework for Computer Supported Subjective Education”, CID-report 17 (Stockholm: KTH, 1997), 80-102. In the natural sciences, the extent to which such calibration is at hand is measured, directly or indirectly, in practical experimentation. In the humanities, the practical criteria for the determination of a common understanding is of a different sort. Definite proofs are harder to get at, beyond the hard fact that readers keep reading along, and respond.


82 In Notes on the synthesis of form, Alexander discusses the sophisticated ways in which design work is decentralised in traditional societies. “All the agent need do is to recognize failures when they occur, and to react to them. (...) On the one hand the directness of the response to misfit ensures that each failure is corrected as soon as it occurs, and thereby restricts the change to one subsystem at a time. And on the other hand the force of tradition, by resisting needless change, holds steady all the variables not in the relevant subsystem from taking hold. ... It is just the fast reaction to single failures, complemented by resistance to all other change, which allows the process to make series of minor adjustments instead of spasmodic global ones: it is able to adjust subsystem by subsystem, so that the process of adjustment is faster than the rate at which the culture changes.” (Alexander 1994: 52-53)

83 In American Genesis, a History of the American Genius for Invention (New York: Penguin Books, 1990), Thomas P. Hughes describes Thomas Edison’s ability to identify in a systematic way the weaknesses, “the reverse salients,” of a particular design and how these weaknesses, or misfits to use Alexander’s term, when remedied exposed new strategic weak points that became the new main points of attention for further development. (Page 71-73.)

84 The mathematical reasoning refers to “sets of possible misfits” and is accompanied by systematic explanations through the use of graphs.


87 For discussions about the three-part structure of narrative in visual arts and cinema, see Noël Burch Life To Those Shadows in which he identifies both “large-scale narrative form” and “the minimum conditions for narrative” with the basic paradigm of beginning - continuation – conclusion, Noël Burch Life To Those Shadows (Berkeley: University of California Press, 1990), 143, 159 n.1, and 160 n.9. Similarly, Brian Winston refers to Tzvetan Todorov’s notion of transformation as a main principle of narrative in which an initial equilibrium is presented, threatened, and transformed into a new equilibrium. Winston 1995: 101-102.

88 Since the APL account is concise and vibrant with meaning there is ample room to reflect over its similarities to other interpretative schemata, such as the structuralist investigations
of Claude Levi-Strauss, the word-game reasoning of Ludwig Wittgenstein and the search for archetypes of Carl Gustav Jung.

89 James O. Coplien has made a fascinating study of organisational patterns in a workplace of particular interest, the AT&T Bell Laboratories. In “A Development Process Generative Pattern Language” he presents 43 organisational patterns that are the result of three years of research carried out by AT&T Bell Laboratories. (http://www.bell-labs.com/user/cope/Pat-
terns/Process/index.html, accessed 2001-09-12) In describing his results, Coplien refers to common sense as much as to innovative and surprising insights. “While the language encodes well-known and reasonable folklore and practice about organizations, it also draws on unconventional insights gained through empirical studies of outstanding organizations.” (See section: Introduction: Language Forces.) Coplien also states that the validity of the patterns are confirmed by informal discussions with managers from other highly productive software developers, such as Borland, AT&T, and Lucid. (See section: Abstract).

A comprehensive list of the different kinds of application domains is given at: http://www.pliant.org/personal/Tom_Erickson/InteractionPatterns.html, (accessed 2001-09-12)

91 One of the introductory chapters in APL is titled “The poetry of the language”. Here Alexander discusses the density and the constructive overlap, characteristic of poetry in all languages: “In an ordinary English sentence, each word has one meaning, and the sentence too, has one simple meaning. In a poem, the meaning is far more dense. Each word carries several meanings; and the sentence as a whole carries an enormous density of interlocking meanings, which together illuminate the whole. The same is true for pattern languages. ... [it is] possible to put patterns together in such a way that many many patterns overlap in the same physical space: the building is very dense; it has many meanings captured in a small space; and through this density, it becomes profound.” (Alexander 1977: xii.)

92 Alexander 1977: 102-103. The number in parenthesis after each name indicates where in the overall language the specific pattern is situated. To make the patterns easy to find, A Pattern Language employs a double pagination, giving pattern number on the top and page number on the bottom of each page. In my following quotes from the book, I will refer to pattern number and pattern element (preceding link-list, problem definition, account of forces, recommendation, tailing link-list). In my opinion, this gives a reference which is as accurate as page-references since none of the pattern described are more than six pages and the reference to pattern element immediately gives the context for the quote.

93 Two of his inspiring articles can be found at: http://www.pliant.org/personal/Tom_Erickson/Genre.chi98.html and at http://www.pliant.org/personal/Tom_Erickson/VC_as_Genre.html.

94 I will return to the current use of the concept of genre in Cinema studies. Suffice to say here is that the concept of genre appear quite frequently in the different analytical and theoretical traditions of film studies. Although it is an important underpinning for the critical writing about contemporary film in news-media, the use of the concept in film analysis as a whole is somewhat scattered. The current contribution that has been most influential for
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this thesis is made by Rick Altman, *Film/Genre* (London: BFI Publishing, 1999). It offers a comprehensive historical analysis of how the concept of genre has been used in film criticism, an analysis that leads up to a sociologically informed use of the term which makes frequent references to linguistics. Another recent book on the subject is Torben Grodal’s *Moving pictures: a new theory of film genres, feelings and cognition* (New York: Oxford University Press, 1997). Although this study provides fascinating insights into how genres embody emotional and cognitive patterns, its exclusive focus on “visual fiction” and mental processes locates most of these insights outside the scope of this thesis.


Altman 1999: 223.

In *Film/Genre*, Altman specifically criticizes Stuart Hall and Michel de Certeau. “As Hall and his followers model the situation, even the most oppositional reading is still just an act of decoding, ultimately dependent on a prior act of encoding. While the connections between encoding and decoding are carefully traced, no clear path leads from decoding to subsequent encodings, from opposing to intending, from the margins of a current society to the centre of a reconfigured society.” (Page 212). Altman here refers to (Hall 1980) and (De Certeau 1984).

Altman explains the pragmatic analysis on pages 208-210.

Altman 1999: 212.

This is a challenge in direct opposition to the quest for finding the least common denominator of a mass audience, a quantitative approach that runs the risk of degrading all but the most familiar conventions. See the chapter on Evolving documentaries in Part 2 for a presentation of an “editing assistant” and how it was designed to counter such tendencies of streamlining in the news media.

Espen Aarseth, *Cybertext: Perspectives on Ergodic Literature* (Baltimore, London: The Johns Hopkins University Press, 1997), 62-65. Rather than building on strictly formal traits of these types of texts, Aarseth grounds the distinctions on how they are used by readers. While hypertext lacks the linearity of the codex, it does not provide the user with generic means to alter and extend the text. This is, in his definition, the unique trait of cybertext.

Ibid. 84-85.

Aarseth analyses in great depth some modernist hypertexts, such as *Afternoon: A Story* (1990) by Michael Joyce, from the point of view of narrative construction. However he finds that their preoccupation with novel narrational effects turn them into “antinarrative” or “games of narrative” rather than examples of how narrative could be extended. (Aarseth 1997: 94.) Aarseth also unfolds the narrative structures of a range of computer games, from
Adventure (William Crowther, Don Woods) to Zork (Mark Blank, Dave Lebling). Here he finds the term “intrigue” more fruitful than the term narrative to grasp the unique uncertainty of the user typical to the hypertextual encounter. (Page 111-114.)


106 McCloskey 1992: 109


109 Ibid. 147.


112 Ibid.

113 Ibid. 8, my italics.


115 Ibid. 272, my italics.

116 Ibid. 273, my italics.

117 Nichols 1994: 95. Nichols introduces this categorization in Representing Reality, (Nichols 1991: 32-33) where he also credits Julianne Burton for developing it from an original two-part categorization to the four-part outline it eventually received.


119 While this distinction between imaginary worlds and historical representation is a useful one, it should not stop us from identifying clusters of coherent form on a level below the broad taxonomy of modes of representation. That Nichols himself refers to six categories of historically situated waves, or bodies, of non-fiction films indicates that there is a need for such level of detail. In the Index of the earlier book they are: Cinema Verité, Direct Cinema, Docudrama, Ethnographic film, Feminist documentary, Home movies (Nichols 1991: 309-13); in the later book Docudrama is supplanted by Reality TV and Historical films are introduced as a category on the same level of abstraction as Ethnographic film, (Nichols 1994: 183-7, xII and 109).


121 Ibid. 32-33.

122 Manuel Castells makes these media flows one of his central topics in his study The Network Society. In its prologue, “The net and the self”, he explains the background to this focus. “Social movements tend to be fragmented, localistic, single-issue oriented, and ephemeral, either retrenched in their inner worlds, or flaring up for just an instant around a media symbol. In such a world of uncontrolled, confusing change, people tend to regroup around
primary identities: religious, ethnic, territorial, national. … Meanwhile, on the other hand, global networks of instrumental exchange selectively switch on and off individuals, groups, regions, and even countries, according to their relevance in fulfilling the goals processed in the network, in a relentless flow of strategic decisions. It follows a fundamental split between abstract, universal, instrumentalism, and historically rooted, particularistic identities.” (Castells 1996:3.)

123 In the prologue to The Network Society, Manuel Castells uses the term “social fragmentation” to describe the general blurring of borders in society “in a historical period characterized by widespread destructuring of organizations, delegitimation of institutions, fading away of major social movements, and ephemeral cultural expressions.” (Castells 1996: 3.) For the ongoing blurring of borders within the documentary traditions, and the need for an ongoing informed reframing of typologies, see Nichols 1991: 33-34. Nichols 1994: ix-x, 95-6.


125 Ibid. p. 217.

126 Ibid. p. 217.


130 Ibid. p 142.

131 Ibid. p 141.


133 Uricchio 1993: 5.

134 Ibid. p. 6.

135 Ibid. p. 7.

136 Ibid. p. 8.

137 Ibid. p. 11.

138 Ibid. p. 23.

139 Ibid. p. 32.

140 Ibid. p. 32.

141 Ibid. p. 48.

142 Ibid. p. 48.

143 Ibid. p. 197.

144 Ibid. p. 13.

145 Ibid. p 13.

146 Ibid. p. 13-14.

Part 2

Examples
Grounds for selecting examples

A broad spectrum of digital techniques is revitalising formal innovation as the technology of moving images enters its third century of development. Established narrational forms are being revised according to new expressive opportunities. Dramatists of fiction films and computer games search for new exotic vistas to which the latest breakthroughs in moving imagery can be applied. But our daily lives are influenced by digitalisation as well. The way we write letters is gradually changing. The ways in which we take notes and pictures are changing too. The accommodation of these more prosaic forms of expression – such as diaries, notebooks, and essays – is a theme that manifests itself in my selection of examples. By including this kind of loosely structured narratives I want to highlight the possibilities for a cinema of digital meditation to evolve in parallel with the Cinema of Digital Attractions. The inclusion of the personal and the informal everyday use of digital media asserts that there is indeed a continued demand for reflective forms of realism, forms that may revive the surrealistic qualities of the tradition of poetic documentaries.

The steady flow of historically oriented CD-ROMs aimed at the general public is a sign of the sustained interest for these reflective forms of factual accounts. In the introduction I mentioned the enthusiastic reception of two recent Swedish examples that recollects historical documents from the City. Much of the public debate about the usefulness of new media technologies centre exclusively on practical extensions of media usage made possible by increased technical capabilities in different dimensions. News may be delivered faster, to broader audiences, in smaller packages, and with higher degrees of security. In my exemplification of historical programs, the focus will rather be on how new patterns of formal expression can provide for new patterns of explorative association on the level of user experience. This emphasis on formal aspects of reception is motivated in the earlier chapter about User orientation, where I argued for the necessity to understand actual contexts of use, and in the chapter about Genre, where I presented how user contexts can be systematically related to purpose and shared understanding of thematic and formal patterns. In Part 3 I will further discuss to what extent the patterns of explorative association exemplified can be regarded to promote the modes of contemplation and meditation, rather than those of attraction and sensation. A basic criteria when looking for recurrent design patterns in an openly defined genre is that the patterns should be visible in a range of examples regard-
less of the date of production and the technical specificity of the individual instance. Therefore, my first example from the non-fiction genre of historical programming is taken from the 1940’s and represents a classic documentary characterised by limited mobility in recording techniques and the theatre as the dominant site for exhibition. By starting with an example from this early date I hope that some of the formal innovations of the genre will become visible in the pattern variations of later examples. Since it is the first example, and since it represents a well researched area, I will give equal attention to the thematic and the formal patterns that can be discerned. This means that I will test the usefulness of the pattern approach by relating how the film is designed to what the film is about - how its themes and its substance can be described in terms of the Alexandrian pattern language. My belief is that the questions of formal characteristics are inseparable from those of thematic context. In this respect I share the basic notion of Christopher Alexander, that form is articulated in a process of constant interaction between the (media) artefact and its social and physical context. Based on this inquiry of thematic traits, I then re-read some of the earlier analysis of the films examined, both in terms of thematics and form. I will specifically note to what extent the particular patterns I have identified re-appear in these earlier analysis. Since none of the later examples have received the same analytical attention as the first one, the examination of thematic aspects in the later cases will be more brief and will refer back to the introductory discussion. Both thematic aspects and formal variations will be accounted for in relation to the first, non-digital example.

The following examples cover four projects where digital techniques have been used in production but not in distribution or where existing film material have been recompiled for digital distribution and use. This intermediate forms of digital application is first represented by a Swedish documentary, produced for and broadcast on public service television in 1998. Digital distribution of non-digital productions is represented by two CD-ROMs where, in the first, a wealth of archival footage have been recompiled, and, in the second, a television documentary have acquired a secondary means of distribution. A fourth intermediate form is represented by a website associated with a televised documentary explicitly produced to demonstrate and investigate digital technologies. The fifth and sixth examples are both produced exclusively for use in digital media. The fifth example represents a novel approach to how moving images can be used on the World Wide Web while the sixth is an account of a work in progress in the shared 3D worlds of the Internet.
Humphrey Jennings and the British Documentary Movement

The rhythm of work-a-day Britain;
The furnaces are fired;
Cargoes are loaded;
By the power of correspondence;
The rhythm of trade is maintained by the mails;
Keep in rhythm by posting early;
You must post early to keep in rhythm.4

Context - the Griersonian community of documentary filmmakers

Humphrey Jennings belonged to the British group of filmmakers led by John Grierson who introduced “the documentary” as a purposeful project of education, artistry and public debate. Jennings was not in the centre of the group. He joined it quite late, in the mid-thirties, and his production was limited to twenty-six films in which he was credited as director, producer or editor. Still, when the lasting contributions of the Griersonian movement is discussed today, it is some of the films made by Humphrey Jennings that tend to reappear as examples of formal innovation.

Which were the driving forces behind the Griersonian movement as a whole? The active period of the movement coincides with the depression of the thirties and the mobilisation of the British society during the war. The different units that headed most of the productions were all sponsored by governmental agencies with the general aim of improving public relations. This aim entailed not only to promote a favourable picture of Britain abroad but also to support domestic public education and debate. A selection of titles of the pre-war films gives some hints to what these films were all about. First there were the subjects of natural science: THE
THEOREM OF PYTHAGORAS, ON HARMONIC MOTIONS: RESULTANTS AND ELLIPSES, EMINENT SCIENTISTS. Then the application of the natural sciences in different technological areas were covered: AIRCRAFT DESIGN, BIRTH OF THE ROBOT, CATHODE RAY OSCILLOGRAPH. There was a marked interest for the technology of communications: NIGHT MAIL, C.T.O. - THE STORY OF THE CENTRAL TELEGRAPH OFFICE, B.B.C. - THE VOICE OF BRITAIN, WHAT’S ON TODAY. The interest extended well into the subjects of industry and economic geography: INDUSTRIAL BRITAIN, DRIFTERS, SHIPYARD, COALFACE. On this level, the language of contracts - the subjects of business and economic history - was a central theme: WEALTH OF A NATION, AN OUTLINE OF THE WORKING OF MONEY (with Prof. M. Polyani), BANKING FOR MILLIONS, BIG MONEY, PENNY JOURNEY. Finally, the taming of the market through the issuing of welfare policies, was also regarded as an important theme to follow: THE SMOKE MENACE, ENOUGH TO EAT, HOUSING PROBLEMS, WORKERS AND JOBS, ADVANCE DEMOCRACY, COMMUNITY CALLS, GIVE THE KIDS A BRAKE.5

The list of titles testifies to the multitude of perspectives applied by the group. That the titles can be arranged into quite a comprehensive record of themes - natural sciences, technology, communication, industry, economics, politics - is a further sign of the movements broad ambition in respect to public education.6 The challenge for its members was to make art meet science and to make the new medium of expression pleasurable and useful in everyday life. Their opposition to the escapist and sensationalist orientation of contemporary cinema can be witnessed in quotes about what environments they wanted to document and whom they were addressing: “The films were revolutionary because they were putting on the screen for the first time in British films - and very nearly in world films - a workingman’s face and a workingman’s hands and the way the workers lived and worked.”7 Such declarations could even take the form of short manifestos expressing who should be talking to whom in the films: “Documentary must be the voice of the people speaking from the homes and factories and fields for the people. (My italics)”8

These quotes indicate how central the contemporary political and economic debate were to the group. Much has been written about the ambitions of the individual filmmakers. Before I look closer on the films of Humphrey Jennings, an interesting point of reference may be made. It is derived from one of the harshest critics of the Griersonian movement and its heritage. In CLAIMING THE REAL, Brian Winston makes a detailed reassessment of the British documentary movement, its claims and how the group succeeded in fulfilling them. I will return to what he has to say...
about the films of Humphrey Jennings, but on the subject of the overall purpose of
the group, Winston makes an important reference as far as which tradition they
were working in. To find a similar movement in terms of ambitions and artistic
productivity he has to go back to the French realist school with painters like Courbet
and Millet as the most articulate spokesmen:

Grierson echoed the realists in his claims about everything from working
methods (the flight from the studio) to subject matter (the working class);
from purpose (public education and social agitation) to justification (the artist
as a political actor). 9

Winston substantiates this comparison with quotes that sound curiously modern
and that draw the parallels convincingly, not only between the French realists and
the Griersonians but also well into the artistic endeavours of the 1960s and 1990s.
Specifically, he notes one important difference between the French and the British
artists, a difference that has interesting implications for the digital educators, artists
and critics of today. Winston writes that the aspect of institutional belonging marked:

... the most salient difference between the Griersonians and the French real-
ists. Grierson and his team pursued their creativity and sought the ‘ordinary
virtues of an art’ as civil servants or the employees of great corporations. ...
The French, on the other hand, were on their own, distanced from, and in-
deed often in apparent opposition to, both state and business. 10

The institutional belonging, in particular the relationship to “state and business”, is
an important frame of reference when trying to understand the impetus behind
the individual careers of the members. When sketching the career of Humphrey
Jennings, it is not the straight lines through the institutions of state and business
that evolve, rather the circling between different social polarities and the transgres-
sion of institutional boundaries. As I have already mentioned, he joined the move-
ment quite late when some of the influential films had been made and the different
directions of many of the individual filmmakers had been staked out. His prime
interest seems to have been the expressive possibilities of visualisation. The first
films he worked on were all based on still images or objects that were brought to
motion through the magic of technology. In Poste-Haste (1934) he used a compila-
tion of documents, prints, books, and paintings to tell the story of the postal serv-
ice. Similar experiments were done in Locomotives (1934) and in The Story of the
Humphrey Jennings and the British Documentary Movement

WHEEL (1934/5) where models from museums were brought to life through the tricks of cinematography.11

Another early interest of Jennings’s was colour. In THE BIRTH OF THE ROBOT (1936), for Shell Mex and British Petroleum, he worked with Len Lye to develop the colour animation techniques that would be the hallmark of Lye in many successive films. The same year Len Lye made RAINBOW DANCE which is an interesting example of how playful artistry meets applied science. It is made for the Post Office Savings Bank and the magic of this prosaic and down to earth subject is heralded in the films final message where a voice declares that “The Post Office Savings Bank puts a pot of gold at the end of the rainbow”.12 The longevity of the films energetic rhythm is proven by the fact that, as of this writing, sequences of it has reappeared in the high-powered flow of the music channel MTV for almost a year.

Both Len Lye and Humphrey Jennings were associated with the first international Surrealist Exhibition, held in the New Burlington Galleries in June of 1936. Jennings had helped edit the bulletins and manifestos of the British Surrealists. His collaboration with dress designer Norman Hartnell is another sign of his preoccupation with new forms of expression and his distance to the matter-of-fact oriented institutions of “state and business”. During 1937 he initiated the surrealist-anthropological project MASS OBSERVATIONS together with Tom Harrisson and Charles Madge. This was another project along the lines of merging art and science which would be influential for his later attempts to bring life to issues of sociology and economic history.13

Jennings appeared in many roles during his first years with the Griersonians. He contributed with camera work on COALFACE (1935), he designed sets and even made acting appearances in films like THE GLORIOUS SIXTH OF JUNE (1934) and PETT AND POTT (1934). But this broad interest in the means of expression did not stop him from sharing the educational ambitions of the movement, its interest for the practical matters of the world and for scientific enquiries. On the contrary. The quality of Jennings’s formal innovations is, to my mind, that they draw attention to the seemingly well known and makes us see it in new ways. Formal experimentation goes hand in hand with analytical focus and a quest for authenticity. This combination of practical and theoretical curiosity is clearly evidenced by film historians. Rachel Low characterises him as “a young man whose all-round intellectual brilliance and connections with the academic and artistic worlds were something new to the circle” ... “an almost alarmingly highbrow and well-connected person.”14 The close-
ness to everyday matters and the educational ambition can be witnessed in the films he made from 1938 when he re-joined the movement after his work with Mass Observation. In Penny Journey (1938) for the General Post Office he investigates the inner workings of the postal services. In Speaking from America (1938), he explains the radio-telephone system between the United States and Britain and in Spring Offensive (1939) he demonstrates how farming is mobilised for war. The theme of mobilisation makes the goal-orientation and social directedness of his films even more outspoken. In Fires Were Started (1943), the exact workings of a fire brigade putting out fires in the London docks is meticulously documented. The prolonged act of waiting and being prepared for battle is analysed in Listen to Britain (1942) and towards the end of the war, it is the preparation for peace that is discussed in A Diary for Timothy (1945).

Trying to understand the orientation and interests of Jennings as one of the influential members of the British documentary movement has to be done in a somewhat open manner. The task I have set myself is to assess if and how a design pattern approach can cast any new light on Jennings’ influential contributions to the documentary project. The context does not allow me to pursue that perspective in a series of close readings of his films in order to compare it in detail to other approaches. The goal is more modest, to apply a framework that has emerged within digital media criticism in order to assess whether it is versatile enough to give new insights into an already well-known and much respected artistic heritage. This means that I will have to be very brief in my analysis. My discussion will build heavily on what other scholars have discovered in Jennings’ films and my conclusions about the pattern approach as a complementary framework will be very tentative.

Instead of a giving a comprehensive overview of the different scholarly interpretations of Jennings’ work, I will continue by applying the pattern approach as a possible key to Jennings’ thematic preoccupation in a collection of his films. After that outline I will assess to what extent the approach resonates with what some of the specialists writing on Jennings have found. One characteristic of the underlying quest, the common purpose of his films, will provide me with a first node for applying the pattern perspective. It is penned by Eric Barnouw and the essence of it seems to be generally accepted among most of Jennings’ interpreters. “He seemed to be saying that time was short for humanity; that being human could not be postponed until some post-war era.” One way of understanding this quote is to see Jennings artistry as the result of an ongoing experimental process marked by a
certain disrespect for the ruling artistic norms of the day. Many of the filmmakers brought their training in sociology and political science to the filmmaking projects of the movement. Few of them managed to infuse the social understanding with creative experimentation the way Jennings did. This notion of a broad interdisciplinary contribution, supported by a practical training in literary criticism, poetry and painting, may serve as a background for a closer look on some of Humphrey Jennings’ films.

Theme and form – a surrealistic tapestry of human behaviour

I will make the quote from Barnouw, “that time was short for humanity”, my starting point in the search for thematic patterns in some of Jennings films. The quote points to the tension between different horizons of time, as apparent then, as it is today. If an essential trait of “being human” is to allow yourself the time to reflect and ponder the society you live in, then the quote might seem self-contradictory. It amounts to something like – “we are in a hurry to stop and think”. Perhaps a more sensible reading would be “we are in a hurry to stop ‘just doing things’, we have to start appreciate how these activities work together.” To my mind, it is this quality of weaving patterns, of highlighting the connectivity between human activities, that stand out as one of the salient qualities of Jennings films. My assumption is that the pattern approach might clarify what kind of activities that actually get connected and how. If so, which patterns of the original collection in A PATTERN LANGUAGE (APL) come to life in the films? In this preliminary and very condensed, first encounter between the book and the films I will just identify the relevant patterns by name, quote a sentence from their recommendation, and, within parenthesis, enumerate some of the forces that give them their character.

In Penny Journey there is a whole range of oppositions that get connected on different levels – young and old, men and women, the close surroundings and the far distance. A small boy writes a postcard to his aunt and we are invited to follow the writing in close up; join the journey of the postcard to the pillar-box nearby; the various Post Office procedures; the postmaster opening up shop, cycling and walking to Auntie’s farm where she finally reads it out aloud. In terms of thematic patterns, this continuous flow of interactions that connect opposites can be compared to some of the patterns from APL: 26. Life cycles: “set the ideal of a balanced life cycle as a principle guide for the evolution of communities.”; 27. Men and
women: “Keep this balance of masculine and feminine in mind for every project at every scale, from the kitchen to the steel mill.”; 40. Old people everywhere: “Old people need old people, but they also need the young, and young people need contact with the old.” These patterns also get highlighted in other films by Jennings. In SPARE TIME (1939), the old people are present in their quite way, playing cards. In SPRING OFFENSIVE it is again a small boy meeting the grown ups on the farm being mobilised. And in A DIARY FOR TIMOTHY, it is the monologue of a man, writing his diary notes to a new-born child, that binds the film together.

In SPARE TIME, Jennings quietly and closely observes how leisure time is spent. The binding theme is music – the practice of a brass band in the steel industry, the marching of a carnival band, and the singing of a coal miners choir. The diversity of the individuals and the surroundings stand out through the careful musical integration. Again the general theme of the film can be identified in terms of Alexandrian patterns: 58. Carnival: “Just as an individual person dreams fantastic happenings to release the inner forces which cannot be encompassed by ordinary events, so too a city needs its dreams.”; 63. Dancing in the street: “Why is it that people don’t dance in the streets today?”.

The image “so too a city needs its dreams”, picked from the Carnival pattern, merits a comment. In APL it is the basis for concrete and sensibly functionalistic advice: “Set aside some part of the town as a carnival – mad sideshows, tournaments, acts, displays, competitions, dancing, music, street theatre ...; weave a wide pedestrian street through this area; run booths along the street, narrow alleys, at one end an outdoor theatre; perhaps connect the theatre stage directly to the carnival street, so the two spill into and feed one another.” Here, like in the films of Jennings, the characteristic quality is a floating connectedness. The streets are woven; street and theatre should be connected so that they can “spill into and feed one another”. Another noteworthy point is the fact that the site described here is the cradle of cinema as popular entertainment. Movies are still shown at the outdoor theatre of many a fair ground. The marvels of science most certainly have its booths with digital attractions of unknown scope. Both Jennings and APL focus on the Carnival as a crucial institution in society. They both find it a site for transgression, for surprising and energising meetings between opposites. And the site is, as such, an interesting context for the understanding of how moving images in all its forms are used.
These contextual affinities between Jennings films and APL can be further reflected upon in another pattern that may not seem so distant, given the religious background of the institution of the Carnival – 24. Sacred sites. The contextual declaration of this pattern is: "People cannot maintain their spiritual roots and their connections to the past if the physical world they live in does not also sustain these roots." The ending words of recommendation are: "...establish ordinances which will protect them absolutely – so that our roots in the visible surroundings cannot be violated." If Carnival denotes one of the major roles that cinema has played since its inception, the role of entertainment and recreation Sacred sites seems to denote another of those roles, the role of preservation and regeneration. The words "ordinances which will protect them absolutely" may be read as something close to a definition of one of the core ambitions of non-fiction film. And the substance of what is to be protected is something that is spread out far, intertwined, and fragile – "our roots in the visible surroundings".

When war brakes out, Jennings, as well as the documentary movement as a whole, becomes mobilised and the thematic orientation along the lines of Sacred sites becomes more and more evident. In First Days (1939), it is the imagery of some of the landmarks of London that serve to sustain the spiritual roots. The dome of Saint Paul’s Cathedral is one of the centres of gravitation in a town where the barrage balloons make up other silhouettes against the sky. The charged emptiness of the searchlights is paralleled by the empty frames in the facade of the National Gallery. In Fires Were Started it is the docksides at the River Thames that has to be protected. In Listen to Britain it is a survey of the significant sites of society and their connections that highlights the roots of resistance. The countryside is linked to the small town and the big city. The music in the concert hall is linked to the music in the beer hall and at the assembly line. The act of being prepared for war is manifested in the words of the songs that people sing.

In A Diary for Timothy, the typical and representational ordinariness of the sites visited is even more pronounced. And this makes them, in my opinion, not less but more meaningful and charged with spiritual connotations. Here we can also find the related patterns of 65. Birthplaces and 84. Master and apprentices as essential thematic patterns. The film follows the birth and the first months of a child in all its interlinked locals while the narrator tries to write down the essence of what he has learned and what he wants the child to bear in mind.
A lot more can be said about thematic patterns in terms of visualisation of spatial connectivity in the Jennings films. And indeed, a lot has already been said. If the concept of identifying small interlinked sets of recurrent themes as “patterns” is a useful one, it should already have been practised in one form or another. Critics and scholars should have used the concept more or less explicitly in their analysis of the characteristic traits of a specific film or group of films. If a consensus between different analyses in regards to certain characteristics have evolved, then we should be allowed to talk about a shared understanding of the specific artwork. On a more general level, such a shared understanding of a group of films could be referred to as one of the distinctive traits of a genre. In this context though, the aim of the following sketchy account of what the critics have found in the Jennings films, is to examine the usefulness of the pattern concept as such.

Shared understanding of the Jennings films

To what extent then, are the thematic patterns that I have identified adequate reflections of a public understanding, shared by audiences and critics? The sources I will consult in evaluating this question are critical accounts published by scholars such as Eric Barnouw, Rachael Low, Brian Winston, Bill Nichols, and Erik Hedling. If the patterns identified indeed do resound in this body of critical writing, then there are sufficient grounds for referring to these patterns as a valid characterisation of the thematic and formal qualities of Jennings' films.

So, which are the most common themes mentioned in the critical discussion about Jennings’ films? To start with Eric Barnouw, there are some very interesting clues to Jennings interest in surrealism. Barnouw focuses on how the ordinary becomes extraordinary through the act of composition. Furthermore, he also indicates Jennings closeness to the situation of the day. The way I read the following quote is that, the more I as a viewer can relate to the everyday problems of the depression and the war, the more I can appreciate the aesthetic, referential, and formal qualities of Jennings’ films:

It is against this backdrop that Jennings performs his speciality: the vignette of human behaviour under extraordinary stress. The films are crowded with small, unspectacular moments: humorous, touching, curious. In the midst of the surrealist madness of the war, they form a tapestry of men and women
behaving in a human way, and somehow confirming our faith in humanity. They are carrying on.16

The most common understanding of the word vignette is its figurative meaning: “Short, neat description in words” (Collins National Dictionary, CND). But as it is used here, to identify a stylistic trait in visual media, the original meaning is more relevant: “running ornament of leaves or tendrils; any engraving, wood-cut, etc. not enclosed within border”. In my view, this original meaning of the word “vignette” makes Barnouw’s quote an even more striking characterisation. It confirms my earlier remarks on a floating connectivity as being one of the Jennings characteristic formal qualities. Not just on the thematic, profilmic level, that the objects and the agents of the world connect. Not only on the formal level, that the compositional qualities of his films help reveal this sense of connectivity. But most importantly on a spiritual level. It is evident, in Jennings films, that the people who carry on with their everyday business experience deeply that they all rely on each other, that they all rely on a certain commonly experienced connectivity to be at work. In this sense, it is the very quality of a shared understanding, the richness of a poetic language, that the connectivity is referring to. Barnouw goes on in his quote to use the word “tapestry”, which is to say: “fabric woven by needle, not in shuttles” (CND). In my view, the word tapestry reinforces the notion of a floating and multilayered connectivity in quite a pointed way. In another characterisation, this time about his style of editing, he uses the word “weaves” in an explicit reference to the concept of “patterns”: “The films seem simple, but the editing weaves complex patterns.”17

Not only does this last remark by Barnouw testify to the usefulness of patterns as an analytical term, it also denotes, in quite a concise way, the concept of an economy of expression. In that perspective, one interpretation of the remark could replace the “but” accordingly: “It is thanks to the fact that the films seem so simple that the editing can weave such complex patterns”. The same notion can be traced in a quote about First Days (1939). Here it can be understood that it is thanks to the fact that the film is so “precise” that it can be so “rich”: “Its style was precise, calm, rich in resonance.”18 This reference to calmness as a temporal quality that can provide for an economy of expression is paralleled by a later remark on the duration of the events depicted: “The moments are diverse, and almost always brief. There are incongruities – never pushed to extremes.”19
Brian Winston’s foregrounding of the poetic qualities in Jennings’ films is further developed in a recent book by Erik Hedling who discuss his findings against a comprehensive summary of the scholarly discussion about Jennings to date. In his introduction of the filmmaker, he notes that their poetic quality is the most common characteristic used to describe his films. He confirms this observation with a range of quotes from Lindsay Anderson, Erik Barnouw, Jack C. Ellis, Ian Aitken, Paul Swann, David Bordwell, Kristin Thompson, Bjørn Sørenssen, and Rune Waldekranz. What he finds however, is that these scholars, with the exception of Bjørn Sørenssen, have not succeeded to show how the structural particularities of poetic language have influenced the way Jennings composed his films. Hedling’s main argument is that it is the reconciliation of the irreconcilable that provides Jennings’ artistry with its essential qualities.

This is a development of Sørenssen’s findings, which I will return to shortly. Hedling’s main focus is to investigate what practical techniques of reconciliation Jennings use in one particular film, Words for Battle (1941). The chapter amounts to a close reading of how the imagery of some of Jennings’ favourite poets echo throughout the film – scene by scene, through evocations of poems on the soundtrack and
through an intense associative interplay between soundtrack and cinematic imagery.

Before I discuss to what extent this scholarly understanding resonates with the floating, multilayered connectivity I have hypothesised as a complementary characterization, I will very briefly try to ground my discussion of Jennings’ formal techniques in one of his films. Although all of his films can be said to picture the contemporary society in which he lived, there is one film, A Diary for Timothy, in which the act of accounting for history takes centre stage. As it has been widely commented in the literature, and since its diary format has become popular in a variety of new media applications, I will conclude with a brief description of how the quality of a floating connectivity can be traced, not only in the selection of themes, but in individual patterns of composition, as highlighted by some of the leading scholars in the field.

**Formal patterns in A Diary for Timothy and other films by Jennings**

In A Diary for Timothy, the nation is at war, mobilised around anti-fascist cultural values. The voice of the diary is that of an elderly man relating his worries and hopes to a new-born child. The themes centre around the tensions between care versus war, memory versus oblivion. As far as formal traits, the temporal continuity of the film adheres strictly to the chronological order of events. There is no browsing back in the diary. The film opens with a sequence from BBC where the news of the day from the different warfronts is reported. The new-born Timothy is followed...
Part 2: Examples

during his first months, which coincides with the last months of the war. The spatial continuity exhibits an openness that accommodates for reflection. The representational everyday settings from homes and workshops of the city are revealed with a calmly expository camera. The places are connected through associative montage, closely tuned to the literary qualities of the diary-notes.

Now, in order to locate in closer detail according to what formal techniques the patterns are woven, the writings of Bill Nichols, Bjørn Sørenssen, and Erik Hedling can be referred to. Bill Nichols writes about original devices developed by Jennings for the construction of spatial and interpretative continuity. Through what could be called Public point of view (Nichols uses the term “reverse angle, point-of-view-shot”), Jennings creates a social subjectivity by connecting multiple individual viewpoints, e.g. in an audience listening to a concert. Thereby, we are not only invited to share the experience of the concert as individual viewers, but as an audience, a socially and historically situated subject. Although Nichols finds the most systematic use of this device in Listen to Britain, the role played by the coalminer and the soldier in Diary for Timothy resembles those of the audience members who are presented “without any prelude or follow-up that gives these particular members meaning or significance beyond their representative quality and position as emotional relays within the film”.22 (The Public point of view pattern is further discussed in Part 3, in the chapter “Interdisciplinary prospects”.)

Bjørn Sørenssen offers an analysis of compositional patterns in Jennings films inspired by the dividing line Jurij Lotman draws between literary prose and poetry, a line Sørenssen transposes to narrative and associative film respectively. Through Sound overlap, letting sound from not yet seen vistas fade in to the ending of what we see, Sørenssen shows how Jennings subtly provokes anticipation and presence. Through what Sørenssen, with reference to contemporaneous devices, terms Mickey-mouse-editing, Musico-spatial editing with a more general term, Jennings extends this meaning-making pattern within and between shots by connecting rhythms and chords with spatial movement. Through Poetic imagery the visual poignancy of individual shots provides for the connecting mechanism and the associative experience.23 Other patterns of media construction that could be included in an extended analysis of the diary of Timothy might obtain designations such as Public narrator, a pattern exemplified in the scenes from the BBC studio and the families listening at home. Recording reconstructed events is a compositional patterns exemplified in sequences from a mining accident and a hospital. Public music is
played at a concert-hall and at a ballroom while workplace music is played in the factory.

Hedling’s analysis of Words for Battle further reveals Jennings’ intense use of associative links between image and classical poetry. Although Hedling’s aim is to exemplify how this connectivity amounts to an intertextual quality that unites poetry, drama, and film, his analysis also casts some interesting light on linkages to architecture. The opening sequence of the film shows the illustrated first page of the sixteenth century atlas Britannica published by William Camden. In the following sequences a passage from it follows which promptly grounds the film in the physical reality it animates.

For the air is most temperate and wholesome ... For water, it is walled and guarded with the ocean ... the earth fertile of all kind of grain ... abundant in pasture, replenished with cattle both tame and wild ... plentifully wooded ... beautified with many populous cities, fair boroughs, good towns, and well-built villages.24

The reason for this (abbreviated) quote is that I think it is a good example of how architecture, the art of physical building, along with the national poetic heritage, is a sphere of common knowledge which is very relevant for the understanding of Jennings’ films. Hedling points out that Jennings’ use of Britannica is a very deliberate reference to a book which Hedling describes as “the nation’s collective source of strength”.25 The passage is read out with dramatic intonation by Laurence Olivier, a voice that to the contemporary audience signified the quintessence of national culture. And the sound-track is accompanied by images that parallel the journey from countryside to city. Some formal characteristics common to Britannica and to the source I use in order to grasp that which is build, APR, may be noted. Both go from overview to detail, foregrounding that nature provides the conditions for the building of societies. After the depiction of “cattle both tame and wild ... plentiful wooded” the last line evokes that which is build by human hands. And it is here APR emerges as a descendant to Britannica in quite an unexpected way. The present-day value of the built reality depicted in Britannica, and in Words for Battle, can be pondered in 4. Agricultural valleys, (“Preserve all agricultural valleys as farmland and protect this land from any development which would destroy or lock up the unique fertility of the soil. Even when valleys are not cultivated now, protect them:
keep them for farms and parks and wilds.” And the enduring value of “good towns, and well-built villages” is described in Country towns, (“Preserve country towns were they exist; and encourage the growth of new self-contained towns, with populations between 500 and 10,000, entirely surrounded by open countryside and at least 10 miles from neighbouring towns.”)

That Jennings’ interest went far beyond the intertextual reuse of painting, poetry and drama is confirmed by Hedling with reference to three other critics who have all argued that the tensions between agricultural countryside and industrial urban structures was one of the central concerns in Jennings’ artistic effort as a whole. As outlined very briefly here, Hedling’s analysis gives many entrance points to the identification of a pattern of composition that could be termed Intertextual reference since it goes beyond the more explicit references between, and within, image and sound accomplished by the earlier identified patterns. An interesting question is whether the sophistication Jennings shows in this refined intertextual treatment can be conceived without understanding his intense curiosity for the built physical reality, whether it took the shape of the locomotive or the more idyllic countryside. Was it not that kind of unrestricted curiosity that led him to recollect, and recompose, the words and images of Camden, Milton, and Blake? Design patterns as an analytical tool

The common aspects in the critical commentaries about Jennings films, as examined above, have touched mostly on the films’ formal characteristics. As far as common notions directly referring to thematic patterns, the recurring references to humanitarian values seem to be the description most generally agreed upon. I have already mentioned Barnouw’s characterisations – “being human could not be postponed”, “men and women behaving in a human way”, “our faith in humanity”. This broad theme reappears in Rachael Low’s Documentary and Educational Films of the 1930s, especially when characterising what she regards as his first important film, Spring Offensive (1939):

Outstandingly beautiful visuals of the countryside and a sympathetic treatment of the people made it, apparently, an easier film to like. ...Deeply felt by an honest and receptive intelligence, the subjects are treated with humanity but without sentiment, with understanding but without overt comment.
What I have proposed here, is that the observation of recurrent socio-spatial patterns can give important insights into the films thematic and formal composition. The Alexandrian pattern methodology helps us identify such socio-spatial patterns in a systematic way. It stipulates that our built environments, the profilmic reality the films depict, is constructed according to (intensely contested) formal patterns that reflect the values and aspirations of the historically situated society. By extending the pattern perspective to the mediated realities of these societies, we may trace the formal patterns in the composition of the films that depict them. The formal devices which make us see and recognize the city become extensions of the formal devices according to which the city is built. In this sense, one may even go so far as to say that the medium of film becomes a crucial tool for the process of building cities. The contestation and values expressed in the films can be interpreted in the broader context of the society as a whole. Individual films can be understood as elements of broader cycles or genres. And the values and formal patterns of these genres can be understood in the context of the social movements of their times.

As a conclusion of this brief analysis of Humphrey Jennings’ films, I think it is fair to say that the set of Alexandrian patterns I have referred to gives a suggestive background against which the recurrent themes of Jennings’ films can be related to the formal devices through which they are depicted. Life Cycles, Men and women, Old people everywhere, Carnival, Sacred sites, Birthplaces, and Master and apprentice are all patterns that can be identified in the profilmic world. When identified as recurrent themes in Jennings films, the formal characteristics of these profilmic patterns can give fruitful clues to their formal depiction in the films. The use of the pattern methodology as a guide to thematic analysis implies that filmic manifestations of socio-spatial regularities can be seen as affirmations of their social relevance. This in turn suggests that some of the formal filmic characteristics through which the regularities are conveyed may indeed coincide with their profilmic characteristics. I have compiled some of the stylistic devices identified by leading scholars in my brief formal analysis: Public point of view, Sound overlap, Musico-spatial editing, Poetic imagery, Public narrator, Reconstructed events, Public music, Workplace music, Intertextual reference. These devices, identified as a set of patterns, greatly transcend the general understanding that can be derived from my short thematic analysis. The patterns represent what leading critics have identified as key formal regularities in the body of Jennings films. To my mind, the
identification of these regularities as patterns in the Alexandrian sense, gives much of the same overview and practical insight as the approach has lent to the fields of Object Oriented Programming and Human-Computer Interface studies.

My appreciation of the pedagogical value of the pattern framework is further strengthened by many of the underlying observations made by leading critics and scholars. Some of the critics explicitly use the word pattern when describing how the films are composed. And the way they use the word is very close to the Alexandrian usage in which the concepts of inter-relations, linkages, fluidity and overlap are key characteristics of the phenomenon depicted. To me, this confirms the validity of the approach as a complementary framework for studies of thematic and formal traits of non-fiction film. The methodology has already shown its fruitfulness in digital software design, a field characterised by a critical dependence on communicative exactness and richness of language. The application of the methodology into the field of documentary programming may help systematise the notions of genre as an interplay between theme, form, and social praxis. The long-term goal of such an application should be to contribute to a design vocabulary which can be shared by viewers, producers, and critics alike.

Part 2: Examples
This chapter begins with a presentation of a Swedish television documentary that exemplifies new patterns of design that build on the use of digital camera and editing equipment. Then, two CD-ROMs that represents recompilations of archival and broadcast material will be examined. The chapter ends with a brief account of a website associated with a North American televised documentary.

Personal diary, a broadcast – ERIK, A SELFWILLED LIFE

ERIK, A SELFWILLED LIFE is a 27 minute documentary, made in 1997 for the Swedish broadcasting corporation (SVT) by Dick Idestam-Almquist. The voice of the diary is a young, father to be, who confesses his eccentricities and tells us about his commitments. If A DIARY FOR TIMOTHY was about the anxieties of a citizen in a nation at war, the diary of Erik could be described as the generation of the 1970s who is questioning the conformity of the welfare state. The themes centre around the tensions between playfulness versus responsibility, individuality versus the anonymous collective. Thus, the scope has been narrowed down from the issue of national mobilisation to the issue of personal integrity. As far as formal traits are concerned, the comparison reveals some fundamental shifts. The temporal continuity of the two films remains strikingly similar. They are both told in a chronological order where the account of fatherhood is intertwined with the personal interpretation of events that happens simultaneously. The new-born Timothy is followed during his first months, which coincides with the last months of the war. In a similar manner, Erik is followed during the last months of preparation for his child to be born, which coincides with his family moving to a house of their own.
If the narrowing down of thematic scope is not evident in the temporal continuity, it is all the more marked in their different patterns of spatial continuity. In Timothy’s diary, the representational everyday settings are revealed with a calmly expository camera and through associative montage. In Erik’s diary, we experience the authentic settings of his own home, the mill he works in, his car, the barber-shop, and wherever else he chooses to pick up his video camera, because Erik is indeed writing his own diary. The digital, small-scale, fully automated camera has allowed him documentary access to a whole range of the social spaces, such as Birthplaces (65); Your own home (79); Garden growing wild (172); and Small work groups (148). With remarkably dynamic camera-and-sound work, Erik turns the most everyday events into highly personal spectacles. To me, the self-reflective camerawork of Erik’s diary represents the most striking formal innovation when compared to the earlier example. This formal innovation springs directly from a major shift on the practical, technological level. The portrayed has been allowed to take over the role of the cameraman and, in some respects, the role of the director. This may indeed be seen as a new pattern of production. A distinctively new step has been taken in the tradition of documentarist-as-facilitator.

First of all, the new collaborative pattern entails an extended creative role for the documentarist as editor. Dick Idestam-Almquist, the producer at the Swedish Television Corporation, has commented that he, in his role as an editor, took all the chances he could find to dramatise and to play the role of “Auteur”. As long as Erik felt that it was still his story, Dick’s role was to get it forcefully told. And in this film, the collaboration between cameraman and editor indeed seems to work
in a balanced way. To me ERIK, A SELF-WILLED LIFE stands out as one of the best examples of a poetic documentary in the digital era. Many of its formal qualities - its spontaneity and dynamism - are directly derived from the innovative use of the digital camera and editing equipment. In this sense, Erik and Dick align themselves with earlier innovators of the role of Documentarist-as-facilitator, such as George Stoney, Colin Low, Dorothy Todd Henaut, Bonnie Klein, and John Gaventa. From this tradition, institutional patterns of collaboration with proven value can be discerned, patterns that may acquire new actuality through digital camera, editing, and archiving techniques. Through Community as distributor, stakeholder communities have organised internal and external distribution and exhibition practices according to their own needs and resources. Through the Media team as coordinator, experienced technicians have provided training and equipment to groups that have lacked access to the means of media production. And through the role of Director as catalyst, directors have developed responsibilities that are closer to the inspirational than to the commanding function.

The diary of Erik exemplifies practical, constructional patterns that have evolved as a consequence of the lightweight and versatile recording technique, such as Cameraman talking to the camera and Cameraman acting on camera. Further patterns could be identified in the rich array of autobiographical experiments with lightweight recording equipment that have been commented in the literature. Thus, a closer look on the films that Brian Winston inspects in CLAIMING THE REAL (DAVID HOLZMAN’S DIARY, 1968; JOE AND MAXI, 1978) could expose some definite limits, in respect to the kind of selfreflexive processes filmmakers should engage in. On the other hand, Michael Renov delivers sympathetic accounts of how ambitious autobiographical “installations” can offer new possibilities for communication and identification. In the example projects he presents (THE LOVE TAPES, 1978; KEN AND LOUISE, 1991; and L.A. LINK, 1996) the activities of recording and projecting are embedded in carefully selected community environments in which the respect for the integrity of the filmed and the filming persons are firmly inscribed. Future studies of these examples might yield compositional patterns such as Camera person talking to public archive, Camera persons talking to each other, and Camera persons talking to each other’s community members.

The old quest for la caméra-stylo, heralded by Alexandre Astruc in the 1940s, seems to become less and less utopian. Technical innovations provide practical opportunities, but the creative and visionary effort lies as much in applying...
compositional patterns that realise these opportunities as in the actual design of the technological apparatus as such. As far as camera work is concerned, the spread of lightweight, digital video cameras has provided for a virtual socialisation of recording equipment. The on-going digitalisation of the processes of editing calls for new patterns of collaboration between cameramen and editors to realise the full potential of the new compositional patterns. Thus, in the subsequent examples, I will try to identify some new possible patterns of collaboration on the level of editing.

Biography of a scientist, a broadcast, and a CD-ROM

– The Day After Trinity

The Day After Trinity is originally a 90 minute documentary, made in 1980 by John Else for the Public Broadcasting System. It is a portrait of J. Robert Oppenheimer and his colleagues in the Manhattan Project, how they changed the course of history and how history in turn changed them. As a CD-ROM title, the film is the first issue of the Voyager series For The Record – Great Documentaries of the Twentieth Century (Voyager/Learntech). In that digital form the film acquires important new representational qualities. For the sake of clarity I will first describe the film as a traditional broadcast experience. I will then conclude with a brief discussion of the compositional patterns it demonstrates in its interactive form.

The film opens with a long zoom-in on a portrait of the aged Robert Oppenheimer. A letter, addressed to Oppenheimer, is read on the sound-track that clearly indicates that what will follow has more the character of a tragedy than the make-up of a heroic tail. “I can understand now, as I could guess then, the sombre note in you during our last meetings. I know that with your love of men, it is no light thing to have had a part, and a great part, in the diabolic contrivance for destroying them.” Thus, from the very outset, the film engages its audience in an act of interpretation – how can we understand the role of the individual in a particular historical setting? The title of the film is a quote from Oppenheimer himself. Its meaning is revealed in the latter part of the film when he is asked about the plan to put a ban on nuclear testing. He answers that it should have been done “the day after Trinity”. Trinity being the code-name for the first successful detonation, it becomes clear that his view of what had become of the new technology was very far from what he had originally envisioned. Although the film centers on the personal
responsibility of one person there are few instances of his direct personal testimony. The indirect, ambiguous and contradictory pieces of evidence presented by Oppenheimer's colleagues intensify the engagement throughout, and well beyond, the 90 minutes of the film.

The historical setting of the film has almost mythical dimensions. The underlying political theme is the technological race between Nazi Germany and the USA to be the first power to master the forces of the atomic bomb. The ideological aspects of this race is accounted for in themes about the distrust for Oppenheimer as a political person and the clashes between the military and scientific institutions. Oppenheimer was black-listed for suspected communist sympathies. The temporal lifting and ensuing re-negotiating of this ban, for the sake of one of the most central tasks in the military apparatus, becomes one of many threads that bind the destiny of the individual to the history of the war.

By focusing on Robert Oppenheimer, the film can be said to belong to a biographical sub-genre of remarkable men and women accomplishing remarkable deeds. It uses a sombre voice-of-God narrator to guide us through the maze of interrelated chains of events. After the introductory sequence of introspection, the narrative follows a clear chronological order. The camera-work is calm and sober. The use of stills and archival footage is subordinated to the rhythmic flow of accounts from witnesses and narrator. Perhaps the film's mode of representation could best be characterised as a blend between an interactive mode, with its typical reliance on interviews, with necessary elements of a more classical expository mode that accounts for the complex and highly charged historical background.

As noted before, the enigmatic character of Robert Oppenheimer is kept intact throughout the film. In the beginning, he is introduced as a romantic intellectual with great talent but with little concern for society as a whole. Then, the threat of Nazi domination of the world transforms him, step by step, into the successful leader of the Manhattan project. This transformation has such exceptional consequences that the blend of the expository and the interactive mode of representation could be argued to be the most reasonable form. It is as if the emotional, symbolic and ideological aspects of the subject matter is so strong that it has to be viewed through a filter of some kind. To my mind, the provocative character of the material does not call for further provocation or intervention on the part of the filmmaker. In this respect the film proves the longevity of the early expository mode when reinforced with interactive elements that sustain systematic re-inter-
pretation of complex matters. John Else and his team have arrived at their compositional choices with great care for historical detail. They have given us a story that is engaging at the same time as it is open for scrutiny. It stops short of closing judgements and the coherence and continuity of representation provides a sense of extended perspective and heightened anticipation. The transformation of the film to the interactive medium of the CD-ROM amounts to a practical instrumentation for further scrutiny and reflection.

Design patterns in the CD-ROM version of The Day After Trinity

The Day After Trinity in its CD-ROM version can be regarded as a re-compilation of a rather traditionally composed expository-interactive documentary. The re-compilation format is evident both in the CD’s formal appearance and its functional layout. On start-up, the film commences with its own narrational unity. There is no supplementary introduction. Instead, there is a range of buttons and controlling devices below the screen. Here is the usual slider and the arrow-buttons for motion control. To the left of these controlling devices are buttons for getting Help and for consulting a Glossary. To the right of them are buttons for writing your own Annotations and for switching between the original film score and a Commentary score.

![Figure 8. The Day After Trinity, commentary chapters, (John Else, 1980/98)](image)
The Commentary score keeps frozen stills and segments from the original soundtrack in a re-compilation with additional commentary segments. When browsed through with the motion control slider, the carefully selected stills function as an aid for orientation by visually binding the commentary score to the original score. This amounts to a parallel narration made by director John Else, documentary scholar Michael Renov and cultural critic Ruby Rich. The commentary score is the main contextualising material of the CD-ROM. It is associated with a button marked Documentary which displays a Table of the twelve chapters of the film and its associated themes of commentary. The commentary is as ambitious and rich in content as the documentary itself. Some of the themes presented are: Limiting the story; Biography and historiography; Working materials – interviews, footage, stills; Anxiety and the articulation of Conscience – interviewing the scientists; On funding; Description or Interpretation; Filmmaker as historian. (Incidentally, these are all themes that could extend and substantially qualify my introduction above about documentary genres and representational modes.) Underneath the button marked Documentary are three more buttons that each display additional background documentation: Supplements presents the full transcripts of the film, Memos and notes from the testing site and the target selection process, and Excerpts from the Oppenheimer FBI files; Photographs are assembled from the filming, the Los Alamos Community and the Trinity test; Biographies of all participants and persons mentioned in the film are presented in a 144 pages long archival section.

The shear volume of information on the CD-ROM is remarkable proof of the amount of work that lies behind a major documentary project for public television. The material has both the scale and the coherence required for structuring an academic course on modern political history around it. The ways in which it expresses the complex intertwining of the processes involved merits it for use in special courses on the history of technology as well as in courses on methodologies of documentary media. Thus, to my mind, the question is not if it may be defined as belonging to the genre of historical programming. A more relevant question is how it may be used to extend the future historical discourses at universities and in the media. As THE DAY AFTER TRINITY is one of the best examples of a historical document in a digital media, it is important to analyse what kind of design patterns it exhibits. On the level of viewer experience, it is these patterns that make it so different from what we traditionally expect from the history lesson.
One of the most apparent formal patterns in the recompilation of *The Day After Trinity* is its **integrative use of expressive forms**. With a marked understanding of the compositional and narrational possibilities of moving images, a whole range of expressive forms are used to enhance and extend the film as an interactive experience: auxiliary archival footage, still photography, drawings, spoken and written commentary. This integrative use not only allows more material to be assembled in a meaningful and coherent way. The new material also increases the expressive potential of the original pieces of information in an exponential way. Out of the rich supply of written and printed materials grows a new balance between text - stills - film, a balance that bridges the traditional gulf between written and filmed historical accounts.

A second pattern may be described as the **explicit intertwining of chains of events**. The mutually reflecting character of the new documentation supplied in the recompilation explains the experience of sustained unity and compositional wholeness. The usage of supplementary material does indeed relate to the overall narrative. It does provide contrasting and diverting inquiries. And in doing this, it adds to the understanding of the whole. This is a difficult quality to pinpoint. It is not enough to note that the intertwining of themes exhibited in the original film is extended in the recompilation. What we want to examine is to what extent the interconnections are meaningful. The extreme opposite of a meaningful interweaving would be a compilation where very little intertwining and coherence of meaning could be found. The chains of events accounted for would show no communality in spatial, in temporal, nor in intentional continuity, neither on the part of the author nor on the part of those portrayed.\(^{35}\)

One way to examine the added interpretative value of intertwined narratives is to analyse to what extent the supplementary forms express narrative continuities of their own with explicit points of common anchorage. In *The Day After Trinity*, the commentary is indeed tightly integrated into each chapter of the film and thereby obtains a firm compositional coherence. So do the Photographic Gallery and the collection of Biographies, and, to a lesser extend, the dossier of declassified files from the Manhattan Project, the FBI and the scientific community.

A third distinctive design pattern in the recompilation could be identified as **explicit declaration of interpretative problem**. In its language and in its overall formal composition, the CD ROM expresses an invitation to the viewer to articulate his or her own interpretation. It abjures from definite, closing judgements that
would endanger the curiosity of the viewer and close the files for good. The explicit declaration of interpretative problem directly addresses the lack of a clearly expressed perspective that digital historiographic projects often suffer from. The difficulty for some projects that relate closer to established archival categories than to a clearly stated purpose seems to lie in their lack of a uniting theme, a theme that relates the different sub-themes to each other and to a specific audience. The articulation of an explicit declaration of interpretative problem may offer a clue to this difficulty. The Day After Trinity is a good example of how the author’s explicit articulation of his own curiosity may add considerably to the viewers chances of relating to his theme.

Archive of persuasive imagery, film on CD-ROM – Our Secret Century

In the ten Volume CD-ROM-series Our Secret Century (Voyager), archivist Rick Prelinger shares his fascination for films that are exclusively made for their immediate use-value. He presents a wide range of educational, advertising and industrial films from the 30’s to the 60’s, all “films with an up front agenda, to pitch a product or to propagate an idea”. Prelinger declares in an introductory sequence on Volume 1, that his aim is to present “history without boredom”. He explains the secretive quality of his compilation by saying that the films depict “the way we were”, that “they reveal tension and contained drama”. They also expose “the way we were supposed to be”, messages about how to think and how to act. It is this quality of revelation of hidden agendas that, according to Prelinger, makes for the secretive fascination. The phrase he uses to conceptualise this elusive subject is the mindset
of the past. He is very explicit about his own view of the role of history: “we need to figure out ways of making history part of our life today. In the US, history is often treated as nostalgia. We romanticise, we don’t take advantage of what the past offers us – a powerful tool for understanding and coming to terms with the present”. Obviously, Prelinger’s goal is to make us re-think our own attitudes by taking a good look on some of our cultural heritage.

Prelinger explicitly directs himself towards an audience of his own age, born in the 40’s and 50’s. His tone is personal and he shares his fascination in a mode of amusement, reminiscence, and reflection. He encountered the treasured footage when working on a documentary about sexuality and romance in the 50’s. Since then he has collected all the items he could lay hands on, in the vaults of educational-, advertising-, and industrial film archives. Even though the project merits the support of the institutions of education and public service broadcasting, it is a typical work of an independent documentary filmmaker in that it significantly extends the scope of what we expect from these institutions.

OUR SECRET CENTURY (OSC) covers a wide array of themes that touch upon consumerism, design, labour, technology, and teenage transgression. In this respect, the ten volume archive can be regarded as a critical, cinematic illustration to the book A PATTERN LANGUAGE (APL). The latter tries to make sense of society as a working and building organism. The former turns the self-images of the United States of America into something quite close to a distorting mirror. APL integrates the historical dimension by recording the patterns of constantly reappearing solutions to everyday problems of physical construction and design. OSC focus on the social history of USA between the 1930’s and the 1960’s by inspecting the promises made by its leaders in their own persuasive films.38

Volume 1 of OSC, called THE RAINBOW IS YOURS focus on consumerism. The use of film as a tool for marketing is laid open in six examples. In LOOKING AHEAD, produced in 1947, the translucent products of Röhnm & Haas is rendered visible by the Jam Handy Organization. “[We have] Plexiglas all around, for utility, beauty and long life. Here is comfortable and practal living, built around the amazing properties of the most glamorous plastic of all, Plexiglas.” In the next example, TECHNICOLOR FOR INDUSTRIAL FILMS, the same usefulness and satisfaction is attributed to the colourful rendering of the Technicolor process: “the great range of hues and shades in plastic products presents a challenge for reproduction that is easily met.” In DESIGN FOR DREAMING, the 1957 car models of General Motors is showcased along with the
futuristic highways, motels, women fashion, and kitchens of tomorrow. In *ONCE UPON A HONEYMOON* Bell Systems’ colourful line of kitchen, bedroom, and office telephones saves the day for a busy couple. In *FRIGIDAIR FINALE*, the Frigidair Division of General Motors rolls out the 57-models of their Imperial Deluxe and the Super Deluxe lines of refrigerators, complete with a woman in formal dress dancing her way between all the models. *AMERICAN LOOK* is “A Tribute to the Men and Women who Design” by Chevrolet who in 1959 started to use a standard chassis for all their models and now wanted to emphasise “the look” of things and the American people’s “ever-increasing good taste”. The compilation is rounded off with the 1961 Motorama show *A TOUCH OF MAGIC* that promotes a line of somewhat less futuristic models in a somewhat more everyday environment – although with a sense of heightened “smoothness”.

The archive opens itself as a wunderkammer, a collection of strange and beautiful artefacts. Prelinger’s main contribution is to have found and saved this telling imagery, made by institutions with great pervasive power but with little esteem in the contemporary cultural critique. He has supplemented the carefully selected footage with short written commentaries, stills, news articles and longer essays from professional magazines. The material is laid out in a simple and straightforward manner. Key scenes from each movie are animated in micons in the Table of Contents. The background graphics focus on the telling detail of each clip. The buttons that control the display of the movie-clips and the supplementary texts and imagery are few and well positioned. These acts of providing context in form and content turns the archive into a tool for the re-interpretation of contemporary culture. There is a sustained sensation of seeing familiar objects and settings with new eyes. The broader perspective given by the economic, industrial, and political background highlights the attitudes imbedded in language, gestures and artefacts. Prelinger succeeds in reaching his goal – to present history without boredom. And the means by which he does this is by providing perspective. The history comes to life when the telling details are revealed in their broader socio-economic context.

**Design patterns in *OUR SECRET CENTURY***

I have already noted the correspondence in form and substance between the CD-ROM *OUR SECRET CENTURY* and the book *A PATTERN LANGUAGE*. It is also worthwhile to compare the CD-ROM with *THE DAY AFTER TRINITY*. They cover approximately the
same historical period, although the focus of the latter lies on the personal and political biography of an individual scientist, while the former provides documentation that animate the anonymous but pervasive mindset of the period. However different in scope and theme, to me they both exemplify the broad genre of historical programming at its best.

Prelinger’s application of one of the design patterns found in The Day After Trinity, the Explicit declaration of interpretative problem, demonstrates that the use of this device is not just a question of arbitrary formal treatment. It is intimately related to the multifaceted relation between theme, technique, authorial purpose, and audience expectations. In both The Day After Trinity and Our Secret Century, the inclusion of meta-narratives add concrete insight and theoretical significance. These meta-narratives do not gloss over, they underscore the representational intricacies associated with the integration of social, economic, and political context. Our Secret Century deals with the low-level radiation of consumerist dream-works. The broadening of the viewer perspective, supported by the meta-narrative, makes us see the telling details with new eyes. Artefacts and slogans reveal new meanings when placed along other artefacts and slogans in unexpected ways. The Day After Trinity on the other hand, deals with extreme high-level radiation and the intertwining of the personal and the social threads has to be done in quite different ways. The arguments have to be explicit and precise. The interpretation is driven by clearly declared questions about responsibility and credibility. The pattern of design however is the same. Our curiosity is anticipated in both CD-ROMS. We can feel relatively confident that we will get clues to our questions along the way. And that the answers to these questions will inevitably lead to new questions which we articulate ourselves.40

Chronicle of a community, a broadcast and a website – NERDS 2.0.1

NERDS 2.0.1: A Brief History of the Internet is an entertaining and a very well-researched documentary about the architects and pioneers of the Internet. It is delivered in the form of a travelogue between research labs, corporate offices and odd places like mountain retreats and remote country farms. It is made by an insider, Robert X. Cringely, a former Stanford University Professor and INFOWORLD columnist. As The Day After Trinity, NERDS 2.0.1 is produced by the American Public Broadcasting System and it was broadcast as a three-piece series, a sequel to the
earlier series Triumph of the Nerds. Nerds 2.0.1 is not (yet) produced in the form of a CD-ROM. But it is delivered as a videocassette with an accompanying book, a package that is publicised on the PBS website in an exemplary way. As a factual account made by a university professor using visual media to demystify the breakthroughs of information technology it is an interesting example of investigative storytelling. The fact that many of the issues covered in the series relate directly to technologies of visualisation adds to its interest in this context. This meta-dimension of visualising the visualisers is present throughout all three programs.  

Robert Cringely talks directly to those of us who share his curiosity about the vast intellectual work that lies behind the development of the Internet. His tone is friendly and helpful with straightforward explanations of most of the technical complexities. The pace is high and the style is playful. Cringely moves between his appointments in a sports car and takes part in choir-singing and Frisbee-golfing with the people he meets. The form is the personal investigation. By capturing so much of the cultural context and intellectual foundation of the Internet – in original newsreel footage, ads, graphics, fashion, and architecture – he elevates the usual dry discourses of technology reporting into something that could very well be labelled contemporary cultural history.

The Nerds 2.0.1 website, http://www.pbs.org/nerds2.0.1/, is an exemplary extension of the broadcast. All pages are carefully laid out with an abundant use of graphics and images from the film. There is a short Introductory overview of each

![Homepage for the Nerds2.0.1 website](image)

Figure 10. Homepage for the Nerds2.0.1 website
program and a detailed history with links to supplementary texts on persons, dates, projects, and techniques. The text is a derivation of Cringely’s commentary and it is divided into three chapters taking their names from each program of the series: Networking the Nerds, Serving the Suits, and Wiring the World. Two supplementary sections, Cast of Characters and Timeline, give the details about what person was working on what part of the evolving network between the years 1945 and 1998. A third section, Glossary of Geek gives short explanations of technical terms. All supplementary sections are linked to each other and to the main text in a way that compellingly demonstrates the interpretative possibilities of hypermedia.

The website can be viewed as a model for hypertextual introduction to techno-historical programming. All three complementary sections, Cast of Characters, Timeline, and Glossary of Geek, will probably set a pattern for many programs to come. They represent new devices that serve similar functions to that of the Index section of books. In the CD-ROM The Day After Trinity, there are similar sections with extensive biographies and technical terms. But there is no corresponding compilation that gives the temporal contours of the courses of events.

The first of the patterns identified in the earlier CD-ROMs, Integrative use of expressive forms is not as apparent in the NERDS2.0.1 website though. This is probably a consequence of limitations in the web-technology. At the time of production, Cringely and PBS had apparently not found the techniques for delivering video on the web good enough, or stable enough, to include trailers from the programs. However, the second common pattern identified, Explicit intertwining of chains of events, is very evident in NERDS2.0.1 website. The viewer can walk a wealth of resonating paths that all have the potential to give new perspectives and insights. The interplay of the different strands of social and industrial activities – defence, science, engineering, commerce, entertainment – and the different strands of technology – radar, signalling, timesharing, packet switching, protocols, compression, encryption, client-server etc – all this extremely complex and vibrant interplay may be interactively investigated at all five levels of the account: the Introduction, the running Text, the Cast of Characters, the Timeline, and the Glossary of Geek.

The third common pattern identified in the CD-ROMs is also present in the NERDS2.0.1 website. Here, the Explicit declaration of interpretative purpose can be characterised as less elaborate in argumentative style than in the John Else project although more coherent than in the Prelinger project. Cringely is looking for answers about the forces behind technological innovation. But he does this, not in the
context of attributing credits to researchers, designers, and business people. He is much closer to the modes of curiosity and wonder expressed in the Prelinger piece. Still, the NERDS2.0.1 website does not reach the surrealist qualities of OUR SECRET CENTURY. Its mission is more to follow a dynamic history that is still very much in the making. And to my mind, it is not an exaggeration to say that Robert Cringely is taking an active part in this history in the making. His skilful move to turn what appears to be a marketing device, the television network website, back closer to the original application domain of the medium, a site for the circulation of research findings, is one of his important contributions. In doing that, he sets both an institutional and a formal pattern for others to follow. By succeeding as well as Rick Prelinger does to present “history without boredom”, Cringely demonstrates in practice the arguments for the freedom of information which are discussed throughout the series.

The device Website extends documentary broadcast have been used quite successfully on other historical subjects. But Cringely goes further than these earlier applications in demonstrating the compositional opportunities of the medium. And he does this on a key theme, the history of the underlying medium, one of the most dynamic communication technologies of our time. The series is an important step in the articulation of the self-image of the Internet. But for the technology to allow direct links between the web and the actual documentary footage, with sustained image and sound quality, new patterns have to be established, institutional mechanisms that can channel website revenues back to the producers in new and ingenious ways. In respect to those legal and institutional patterns, we have not reached much further than what was envisioned by Ted Nelson in his XANADU project. As I will discuss in Part 3, this is not just an important issue for inter-disciplinary research and innovation. It may also turn out to be a strategic political issue for research centres and universities in their role as curators of scientific knowledge and partners in inter-institutional projects.

Together with the two CD-ROMs about the history of Cities, referred to in the beginning of this chapter, the programs presented in these sections exemplify an emerging genre of contemporary historiography. I agree with Lars Nilsson, the Professor in History of Cities and Communes quoted in the Introduction, that it is not a coincidence that both of his two examples centre around the history of the City. The long-lived documentary genre of City films have demonstrated how moving images can weave intriguing patterns from the level of the individual to all the
multifaceted levels of social organisation that provide us with perceptions of identity. A key theme in my own examples is that digital media, in the form of websites and CD-ROMs, can extend these patterns that connect in important ways. They can provide instrumental links between history and our present day reality, links that extend the photo-chemical indices with photo-electrical and digital indices that provide for context and meaning. These emerging interfaces to our common resources of historical imagery offer new important opportunities for many of the documentary genres. If the potential for extended temporal continuities in program usage to some degree may counter the strong segregating forces inherent in today’s social and economic organisation of electronic media, then this potential deserves close attention from media critics, historians and theoreticians. This will be one of the main questions in my next chapter, how new temporal continuities in program usage can be supported by new ways of archiving and publicizing documentary materials.
Principles for shared creative documentation

A survey of how the documentary tradition meets digital media would not be complete if it did not include examples from one of the most prestigious centres for media research of the 80s and 90s, the Media Lab of the Massachusetts Institute of Technology. The M.I.T.'s traditions in the documentary film project goes back to 1969 when Richard Leacock was recruited to head the Film Section at the university. The Media Laboratory was founded in 1985 with sponsorship from a wide range of private and public bodies to spur a creative, inter-disciplinary collaboration between computer scientists, artists, and researchers from both social sciences and the humanities. From the time of its formation, documentary film-maker Glorianna Davenport has been Director of Interactive Cinema at the Laboratory.44

Some of the major news agencies and television networks were among the sponsors of the Lab when it was started in 1985. However, as of this writing, much of the factual footage that gets published by the news agencies on the World Wide Web conform to the characteristics of the early newsreels a hundred years ago: series of short attractions such as horrors of natural disaster, outbreaks of fire, social and political celebrities convening, minor anecdotes from everyday life with a human touch etc. It is in opposition to these predictable formats on the Web that the developmental work of the Media Lab should be seen. Explorations in interactive storytelling is another central concern of the Lab and it is some of the results from these two related areas that will dominate my account of what is, in my view, one of the Lab's most important contribution to the documentary project.

The MediaLab is dedicated to a creative and innovative search for new areas of application and the staff researchers emphasise quite firmly the autonomy they
have established in relation to their sponsors.45 A declaration of some of the basic principles for developmental work, made by their senior researchers, will give a general idea of the central values of the Lab.46 Provide for transparency – make your resources and your controlling devices visible and accessible, (like the source-code of HTML on the World Wide Web). Work bottom up – make your modules small and autonomous so that they may be useful in new, flexible, and creative settings. Make resources available for use after agreement – put modules and systems into practical and purposeful work, both science and sponsors thrive on co-operation. Distribute process and annotation – decentralise activities and their representations so that they may work together in new and generative ways.

This summary of guiding principles gives a sense of how the lab members perceives their role in the scientific community and in society at large.47 Many of the principles are presented and developed in the documentation of the individual projects at the Lab. Thus, it is a fortunate position to have a thorough account of the intentions and deliberations behind each of these projects. Generally, when individual documentary projects are examined, the written first-hand accounts from originators are scarce. In this case though, much of the documentation has passed the scrutinising eye of scientific opposition. And the different projects do not only represent individual documentaries. They represent a purposeful and theoretically grounded contribution to the technology and the practical application of non-fiction film.

Editing assistants and decentralised public service programming

Some of the working principles of the Lab, such as Make resources available and Distribute process and annotation echo the humanist ethos of the Griersonian movement in the thirties and forties. For them, the challenge was to produce films about, and for, ordinary citizens, in a period marked by surrealistic encounters. The new principles of accessible resources and distributed processes seems to take this philosophy one step further: that the films will not only be “about and for” but even “produced by” engaged community members. The Documentarist-as-facilitator, a role I have discussed earlier, seems to take on a more profound meaning.48 It is not only about making equipment for recording, editing and projection accessible. Now systems engineers, in the role of facilitator of facilitators, are providing a new kind of equipment that de-centralises one of the key phases of creative film
production, the process of editing. In the words of Michael Murtaugh, one of the computer scientists of the film department, in the introduction to his Masters thesis *THE AUTOMATIST STORYTELLING SYSTEM, PUTTING THE EDITOR’S KNOWLEDGE IN SOFTWARE*:

This thesis presents the AUTOMATIST STORYTELLING SYSTEM – an ‘editor in software’ or ‘narrative engine’ – a system that produces dynamic and responsive presentations from an extensible collection of keyword-annotated materials.49

CONTOUR and A RANDOM WALK THROUGH THE TWENTIETH CENTURY (ARW) are two of the projects at the Lab that Michael Murtaugh has reported on in his thesis and it is these two projects that I will use as examples of the Labs work.50 They both exemplify what an “editor in software” could be like – the former is described as a “digital editing assistant”, the latter as “true browsing”. As a designer of such facilitating systems, Murtaugh defines his task first and foremost in relation to his audience and the kind of content they may demand. In terms of audience, he defines it in opposition to the stereotyped concept of a “mass audience”. “In sum, lowest common denominator programming places depth of content in inverse relation to breadth of audience; the result is shallow and disjoint ‘sound bite’ programming.”51 He goes on to specify the kind of material that this “sound bite” format has the greatest problems to render meaningful:

Specifically, the contemporaneous coverage of stories with long and possibly unknown time spans, as well as stories with a large number of influences and possible perspectives, are particularly challenging for a conventional form like television news. Complaints about television news being too focused on ‘the moment’ and failing to do ‘adequate follow-up’ seem rooted in the inherent constraints of the form.52

This identification of the kind of programming that goes against the grain of the North American television format is very important. There is a broad consensus among media scholars about the shortcomings of commercial television in respect to its coverage of political and economic chains of events.53 This consensus forms a well-articulated ground for the legitimacy of public service initiatives. In this respect, technologies and narrational forms that can cope with a greater diversity of perspectives are of strategic importance. The more promising the technologies appear in their capacity to provide comprehensive background, the more they
should be foregrounded as key tools for the renewal of public service broadcasting. This might seem like a remark somewhat out of context, more of an argument about the organisational environment than about the purposes behind particular media work done at the M.I.T. Media Lab. But I think that Michael Murtaugh’s reference to current television formats is essential for the understanding of the challenging opportunities inherent in the concept of Evolving Documentaries. In the same way as the Griersonian movement provided some of the corner-stones for European public service television, the present day’s media research at universities and art schools may inject the concept of public service broadcasting with a new energy and a new sense of scope.

In terms of concrete themes that are particularly well suited for Evolving Documentary formats Murtaugh exemplifies with those of “wars, urban change, and politics”. Not only are all these themes central subject matters in the fields of cultural and economic history. The foregrounding of spatial perspectives and dynamics of multiple horizons of time is particularly evident in one of them, that of urban change. In this explicit articulation of themes that may renew the technologies of moving images, there are resounding echoes from the thirties, from the genre of City Symphonies and from depictions of the English landscape by Humphrey Jennings and other members of the Griersonian movement. **CONTOUR**, one of the two works of Murtaugh which I will analyse in some detail, explicitly develops many of the intertwined themes of urban change in its investigation of the ongoing renewal of downtown Boston.

**The Automatist Storytelling System and its applications**

The encounter with an Evolving Documentary is a very different experience compared to viewing a documentary on television, in a cinema or in a seminar. Before I go into the formal and thematic patterns that characterise this new format, I will make a short presentation of the **Automatist Storytelling System** as it is applied to the two examples. Since **A Random Walk (ARW)** is the more current and mature of the two works, I will start to introduce the system through a general outline of that piece and then make some comments on the differences in the outline of **CONTOUR**.

The portrait of Jerome B. Wiesner was made to honour the memory of one of the co-founders of the M.I.T. MediaLab, and the first version was presented as an interactive CD-ROM in conjunction with the tenth anniversary of the Lab. In the
portrait of Jerome Wiesner, it is the academic community of today’s USA that recollects events from the past century. The voices are those of the apprentices of a senior scientist making biographical notes about their master. Thus, it is closer to the personal biographical accounts of Timothy and Erik than the collective cultural histories investigated by John Else, Rick Prelinger and Robert Cringely. If Timothy is about an uncle, worrying about a child – and Erik is about a father wondering about his new role – then Jerome is about the inheritors of a cultural paradigm who celebrate one of their antecedents. The themes centre around issues of decentralism versus centralism, dialogue versus command. This fascinating experiment in the integration of autonomous agents into the telling of stories can be experienced at http://ic.www.media.mit.edu/JBW/.

The presentation of ARW opens with a screen that, on its left half, depicts a timeline in the form of a square mosaic of micons. From “Personal Style” in the upper left to “Governance” in the lower right, the timeline is displayed in ten rows where the micons depict the sequence of decades, images of people and other captions that identify some of the key themes in the life of Jerome Wiesner– Cold War, Humanism, disarmament, science, peace, Vietnam, and Art. On the right of the mosaic is a list of keywords that, in the opening moment, constructs a textual cloud where non of the individual keywords is legible. Further to the right is an opening text that guides the user with some technical information into the investigation.

The re-tracing of the life of Jerome Wiesner then begins as you pick one of the micons in the mosaic. The documentation answers by highlighting that micon and related keywords in the cloud as it simultaneously adjusts the spacing between the listed keywords so that the most relevant ones stand out in legible form. The more relevant to the earlier succession of documents, the brighter the keywords are highlighted. As one of them gets picked it ascends to the topmost position in the cloud and its associated document gets presented in the rightmost part of the screen. This way, the dense, illegible cloud gradually shifts into a record of the individual course of investigation.

As the compiled documents get displayed – texts, successions of stills narrated by voice-over or video-clips from interviews – their associations with the listed keywords get further revealed, step by step. It is up to the viewer to reflect upon what keyword-paths to follow. There are no explicitly pre-coded paths to pick from. It is in the succession, in the particular temporal ordering of the documentation, that the individual perspective evolves. That way, each investigation is
unique and the individual viewer becomes the creator and the owner of the compiled document. The richer the content, in terms of relevance and informative value for you as a viewer, the more pertinent areas and emerging links there are to highlight and reflect upon.

At the bottom of the screen there is a simple menu with buttons to get help, to restart the investigation or to make a contribution to the documentation. This last button charges this unassuming presentation with an additional responsive quality. Here the pliant quality of the interaction with micons and keywords is extended into an explicit invitation to contribute your own documentation. Through this button you are in a discreet but pointed way encouraged to join the community of creators.

The provision to allocate memory in the system for individual showings, made visible by the transformation of the keyword cloud into a trace of the investigation, represents an interesting extension of the hypermedia architecture. Murtaugh mentions Macromedia Director and HTML on the Web as examples of current systems with very limited possibilities to store information about the state and the history of an individual showing. Murtaugh pinpoints the key feature of the AUTOMATIST STORYTELLING SYSTEM that allows for the extended interaction to the fact that it “isolates the author from the process of explicitly linking a story’s content.”55 It is this re-allocation of space from author to viewer that provides opportunities for the viewer to take an active part in the interpretation and the formation of meaning in a qualitatively new way compared to earlier documentaries. In terms of spatial re-allocation, one could say that it is the list of keywords that take the place of the cutting glue, thereby making all the associated paths open for inquiry. In terms of temporal re-allocation, the editing operation is deferred to the time of each individual showing. This makes two important elements of the authorial act accessible to the viewer: the act of selecting and the act of sequencing. Before I go into the implications of these re-allocations of the authorial act, there is an important remark to be made about sources of thematic inspiration behind Murtaugh’s work.

There are interesting parallels between the work of Humphrey Jennings and Michael Murtaugh, both in terms of thematic and formal patterns. Murtaugh mentions the surrealist movement as a source of inspiration, specifically the liberating associative openness of “automatism.”
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The intention is a ‘truer’ experience as meaning emerges from the interactions of individual expressions rather than from a structure imposed from an ‘exterior consciousness’.56

The scepticism towards an exterior consciousness as the soul interpreter of complex relationships leads, in Murtaugh’s reasoning, to an interest in free association as a means to reach a more comprehensive understanding. Implicit in this line of thinking is the notion of the social and historical situatedness of “truth”. This emphasis on our dependence on other voices and other perspectives than those “imposed by exterior consciousness” is important in itself. It also brings to mind Eric Barnouw’s words about Jennings’ preoccupation with the issues of humanism. If “being human” implies the opportunity to reflect and meditate on social relationships, then this openness to diverse perspectives may in itself be a core element of the notion of “humanism”.

An extended associative connectivity, as a prerequisite for an openness to diverse perspectives, is in my view one of the most characteristic formal patterns of the AUTOMATIST STORYTELLING approach. This is quite obvious when compared to the traditional documentary where the interaction with the individual pieces of work is permanently circumscribed by the authorial voice of its creators. The subtle qualities of the extended automatist connectivity becomes apparent when compared to other examples of interactive documentaries where the viewer on the physical level is free to follow his or her inner voice. To demonstrate this, the automatist approach could be compared to the well known genre of digital encyclopaedias.

In today’s rich, carefully crafted and often very useful CD-ROM Encyclopaedias the user is supplied with textual, pictorial and cinematic material annotated according to different schemes of hypertextual linkages and search mechanisms. With these links to related materials the user is free to associate and to move through the material according to his or her own interests. A simple application of the automatist concept would be to device random trips that broadened the scope of interaction. More refined approaches could subject the categorisation mechanisms to conditional randomisation and thereby provide ways for the viewer to break the random stream and retake the command over the course of events. But the Automatist approach extends the notion of “automatism” in yet another way.
The originality of Murtaugh’s approach lies in the user access to the acts of selecting and sequencing. Whereas the set of selected content in the traditional approach always renders the same alternative paths, the order and the tempo are decisive factors in the sequencing process of the AUTOMATIST approach. In the former genre, the absence of techniques for storing information about state and history of the individual showing does not allow for an interplay between the units of content, an interplay which opens up new paths depending on order and timing. The key feature of the Automatist approach is, firstly, that there is such an interplay going on between the units of content and, secondly, that this interplay is handled in a decentralised way. This extends the user interaction into the relation between the individual units of content, thereby making the documentary material much more sensitive to the preferences of individual viewers.

Construction of thematic coherence in the AUTOMATIST system

The technological infrastructure which provides the new opportunity to animate documentary material is thoroughly documented and discussed in Murtaugh’s Master thesis and in articles written together with Glorianna Davenport, co-director of both the CONTOUR and the ARW projects. This infrastructure entails a new approach to the concept of autonomous agents, the use of keywords and meta-keywords, the linking of keywords to units of content, and schemes of activation that send what could be called “currents of resonance” through the networks of associated units of content.

The technical specificities of the inner workings of the system are outside the scope of this study. But there are a few architectural aspects of the system design that may help reveal more details about the kind of thematic patterns it could handle successfully in future applications. Since it is not a group of finished documentaries in circulation that I am concerned with here, but an underlying technology of production-reception, the investigation into thematic patterns has to be quite different from the presentation of themes in the earlier examples.

In the face of a virtually limitless ocean of possible themes for evolving documentaries to cover, I will re-iterate some of the notions I have touched upon earlier. The shortcomings of traditional programming formats to account for the complexities of industrial and urban change is becoming more and more evident. When new media technology is developed that promises new formal ways of handling such
content, it is essential to analyse the formal traits that allow for an extended coverage. My belief is that there are huge audiences ready to take part in participatory relationships with the intriguing kind of media contents that evolving documentaries can provide. These audiences can be found in industrial and community settings as well as in the extended networks of public and private education. But a crucial question is how the mode of reception of the evolving documentary should be characterised. What is it that sets it apart from the fast flow of television and the fact-centred approach of encyclopaedias?

I have already described the extended associative connectivity that the Automatist approach allows as one of its characteristic formal patterns. Murtaugh describes the life-cycle of the individual evolving documentary project as: "shaped more like an hourglass than a funnel". Whereas the traditional production inevitably ends up in a final cut, the Automatist approach provides for deferred selection and sequencing which in turn allows for a qualitative extension of the range of interconnection in terms of main characters, central themes, horizons of time, and horizons of space. This is the very opposite to what the fast-flow oriented formats of mainstream television provide.

When trying to characterise the distinctive patterns of the reception of an evolving documentary, it is useful to compare it to what has been termed the reflexive mode of non-fiction film, a mode where the authorial voice is foregrounded as an invitation to the viewers to take an independent stance towards that which is shown. This mode stresses the meta-discourse of the narrative. It mediates self-reflection on the part of the authors intended to encourage self-reflection on the part of the viewers. In this perspective, the evolving documentary could be said to bring self-reflection to a higher order by introducing, in quite a literal sense, reflective processes on a lower level of the documentary material.

In the non-linked, unilinear documentary, the author always has to work up to a final cut and in that version incorporate all his or her beliefs and doubts. Multilinear, hypertextual formats invites the author, as well as the prospective viewer, to make his conflicting beliefs explicit and to provide alternative interpretations. In this respect the individual documentary becomes more of an open discursive framework than a closed discursive statement. Each showing, each finalised statement is made in a dialogue with the individual viewer. And as any dialogue, it can be rendered more or less public. It can be a very private walk where a student encounters new fields of interest. It can be a lecturer presenting his material with occa-
sional questions supplied by the audience. It can be a compilation of evidence in one domain or another, used by two competing sides in a public debate. It is not a form for authors who take a strong interest in closed, definite and highly personal interpretations of the subject matter. On the other hand, it is a form for authors who have been repelled by the redundancy of many traditional factual formats, but still has a belief in the possibilities of factual accounts when assembled and compiled in an open and dialogical way.

The exemplification of relevant contexts of reception – the private encounter, the shared investigation and the public debate – outlines a range of possible uses of evolving documentaries. To my mind, this kind of viewing contexts call for an attentive, even contemplative attitude on the part of the user. To be able to experience the multiple layers of time references that come with a richly associative content, you will have to be open for the different temporal particularities of more than one of its inherent paths. Much the same economy of expression is called for as the one that Eric Barnouw and Brian Winston found in the films by Humphrey Jennings. Thanks to the simplicity and unity of the individual scenes, as they both remarked, the editing could weave complex patterns. The preciseness, briefness and calmness of the scenes provided for the richness of resonance of the film as a whole.

To be able to fulfil the promise of a rich associative experience, the authors working with evolving documentary projects have to adhere to a certain economy of expression. But that is not all, the viewers will have to share the attentive mode in what perhaps best could be called an economy of reception. Put in different words, a more elaborate film, in terms of discreteness and richness of associative connotations, calls for a more elaborate way of viewing it. Much of the novelty of this more elaborate way of viewing seems to lie in its new temporal qualities. It requires a preparedness to shift the rhythmic patterns of the experiential act. The key scenes of explanation and revelation are not delivered according to the usual rhythmic but have to be constantly searched for and reappraised. Thus, the deferred editing and the multiple layering of montage foregrounds the competition between different lines of discourse. This liberates the material to the same extent as it forces the viewer into a constantly ongoing act of re-interpretation. The investigation is open for instant re-takes of individual scenes, deferred re-takes to confirm strategic points of context, long pauses for assimilating and pondering the material and extended repetitions of certain sequences in order to re-experience.
and re-think what might have been unresolved mysteries or stunning revelations in the first viewing.

Murtaugh touches upon the new mode of reception called for by the evolving documentary as an interactive experience of a new order. “Structure and meaning are considered emergent properties of the storytelling process.”59 As the word “evolving” depicts the physical interaction on the level of production, the word “emerging” describes the dialogical interaction between the viewer and the system on the level of reception. This brings us back to the decentralised reflective processes that get released in the system in response to the individual viewer. In the short summary of key features of the underlying technology, I characterised these processes as “sending currents of resonance through the networks of associated units of content”. These are the processes behind the individuality of each showing and behind the unexpected, surreal qualities of the ongoing montage. They have the latent power to reveal unconscious but intuitively sensed connections in the material. Since they are invoked at the level of reception and since temporality is at the heart of their functionality, I will finish this section on constructing thematic coherence with a short description of the temporal mechanisms that sustain the extended associative connectivity.

As a certain scene gets picked by the viewer, it is injected with activation value, a value that becomes relayed throughout the material over time according to a set pattern. The keywords that guide the viewer through the investigation constitutes a database of meta-data of the material. The keywords, together with the individual units of the material itself, act as relays in the prolonged activation process. The decentralised nature of the system depends on the fact that these relays function independently of each other. There is no content dependent master plan that control the flow of activation. This feature have important consequences for the scaling of the production-reception life-cycle of individual projects and I will return to them later in this chapter.

As new keywords and new units of content get activated they all send independent currents of activation through the system. The pattern of duration of this process can be pre-set. In the Contour-project, the resulting activation of an individual choice was pre-set to reach its maximum just as the sequence that was chosen reached its termination. That particular activation value then decreases to one tenth of its initial value during a time-span that equals one and a half of the length of the material that spurred the activation. The remaining one tenth of activation
remains throughout the time of the showing, amounting to what Murtaugh calls a 
“‘description sediment’ [that] slightly biases the presentation toward keywords the 
viewer has had some prior exposure to.”

In terms of editing assistance, the temporal pattern of a short but strong 
initial activation followed by a tailing weak but persistent activation amounts to 
two distinctive competencies of assistance. Murtaugh calls the former a “scene-
level” competence and the latter a “program-level” competence. The former could 
be compared to a semantic zoom that draws relevant material towards the viewer 
and makes the investigated material more dense in its meaning and connotations. 
The latter could best be characterised as a trailing device that, in the spirit of Minard’s 
chronographic and Marey’s chronophotographic techniques, tracks the paths just 
visited. (See the chapter “Chronography as a manifestation of the pattern methodology”, for a presentations of these techniques and their present day applications.)

In the ARW-project, the trail is visualised in the cloud of keywords and its succes-
tive transformation into a list of keywords interrogated. (In the CONTOUR project, 
the trail is visualised through lingering contours of individual frames whose posi-
tions and dimensions engraves the paths taken on the screen, see below). But it is 
important to note that these schemes of visualisation are independent of the logic 
of zooming and trailing. One of the most powerful features of Murtaugh’s approach 
is that both the layout of the meta-data database (conceptualisation of keywords 
and meta-keyword, i.e. keywords categorising keywords) and the visual layout of 
the presentation itself is independent of the automatist storyteller system per se.

Adaptability as a formal characteristic of the Automatist system

So far, my analysis of the evolving documentary as a new form of non-fiction film 
has identified a few formal patterns that adhere to its system of production. An 
extended associative connectivity provides for a mode of ongoing interpretation 
and recollection. The reflective processes that the material is embedded in sustains 
this extended associative connectivity. I have stressed the decentralised nature of 
these processes, a technical trait that calls for a contemplative mode of reception. 
Perhaps pliancy (from the Latin plicare, to fold) is the best word for characterising 
such a reception level openness. Pliancy as a characteristic formal quality high-
lights the fact that it is the viewer who creates the presentation as a self-conscious 
and intuitively attuned user. It stresses that the viewer becomes the owner and the
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coa... author in both a direct and an indirect way. This is also where the scaling qualities of the decentralised, automatist approach becomes evident.

The keyword-oriented, meta-database approach solves the problem of updating, inherent in most other hyper-text architectures. There are no hard-coded links to update in the automatist system. Not only is the support of the system greatly enhanced in this way. The approach also makes contributions from prospective co-authors more practical. An additional feature is that all the existing material gets richer in associative value by each new contribution. In most other systems the problem of updating grow exponentially. In the automatist approach, it is the emergent associative value of the material as a whole that increases exponentially. In that respect, the word pliancy can be said to relate to both the responsive quality that resides on the scene- and on the program-level and to the broader institutional level that entails the aspects of co-authorship.

It is important to note that this particular approach to the idea of evolving documentaries is quite a new one. The computational infrastructure is, and I think that Michael Murtaugh and Glorianna Davenport would agree to this, still in its youth. There are still a wealth of new untried layouts, both in terms of databases, processes, visualisations and, last but not least, of concrete documentary material. Therefore, it is hard to identify a small and well-defined set of formal patterns that are grounded in earlier forms of the documentary and that will prove to be characteristic of the approach in the near future. The fact that there are movements going on between (beneath or behind) the visible moving images may prove to represent a technical shift as momentous as that between still photography and its different transformations into cinematography. The pliant activities of a supportive and transparent editing assistant can be visualised with trailing devices reminiscent of those developed by Minard and Marey, early rendering techniques that will be further discussed in the chapter "Chronophotography as a manifestation of the pattern methodology". As Murtaugh has shown, even the contours of future possible paths to choose in the viewing act may be visualised. It is in this prognostic scope that the ongoing processes of association, the relaying of relevance, may prove to be of a unique navigational value. A synchronous trailing device could be envisioned as a fireworks-like, dynamic representation of the ongoing interrogation of the material while the currently moving image is displayed. The trail of past paths acts as a navigational device, growing denser in its associative value as the investigation goes on.
Even if one has to make reservations for the difficulties to foresee what will become the most important contributions of the concept of evolving documentaries, my belief is that it is a fruitful approach to try to extract a small set of formal patterns that may be crucial for its future development. In my analysis of the works of Humphrey Jennings I focused on the usefulness of APL as a tool to identify thematic patterns. This resulted in a discussion about the formal affinities between the films of Jennings and APL as a carefully visualised narrative. I specifically pointed to the focus on the inter-relationships and linkages in the methodology of APL that provided for an account characterised by fluidity and overlap. This focus on linkages in turn helped to get new insights into the formal qualities of Jennings work.

There is a similar affinity between the concept of evolving documentaries on the one hand and the methodology of APL on the other hand. In Part 3, I will discuss the automatist approach as a possible computational infrastructure for a dialogical implementation of pattern languages. Suffice to note here is that the decentralised management of keyword functionality is the crucial feature of the automatist system that makes it suitable for such a task. A central thought in APL is that intense and decentralized interactions in all areas of society afford more viable solutions than those reached by centralised planning schemes. One could say that the massive interaction and discussion that APL aims at, with its accessible and poetic form, is already prepared for on the level of documentation in the automatist system. At each new showing, documents about building things becomes engaged in a process of referencing each other in new ways that may involve large groups of viewers and co-producers. Both M.I.T. projects will probably remain on the World Wide Web for quite some time. That makes them considerably more accessible for closer formal analysis than the films of Jennings. Anyone can log on and experience the fluidity of the form, the rippling currents of association and interpretation that extends the overt interaction with the material. With these remarks about formal affinities as a background, I will turn to my main questions about APL as a tool for thematic analysis.

**Thematic patterns in CONTOUR**

The overall story of CONTOUR is the story of the Big Dig in downtown Boston, a multi-billion dollar public-works project mostly funded by federal funds and sched-
uled to be finished in 2004. A central task of this large-scale building project is to replace Central Artery, a massive elevated highway extension, while the roadway is still in operation.

**CONTOUR** opens in a way similar to ARW. A cloud of thumbnail icons/frames covers most of the screen, surrounded by lists of captions on all four sides. As an icon or a caption gets picked, both the icon’s frame and the caption grows larger to take up most of the screen as it plays. As it is finished, its frame decreases into the background and turns into grey, thus leaving a trace of its presentation. In CONTOUR it is the graphic outline of the film clip that makes up the tracing of the investigation, whereas in ARW it is the keyword-list that represents the path taken through the material.

In CONTOUR, the automatist system’s facility to use categorical keywords is made visible in a way that it is not in ARW. The lists of captions are organised around the four categories of location, time, character, and theme. Below the thumbnail icons the location-keywords are listed: Central Artery, West End, South Boston, North End, Haymarket, Airport etc. On the left there are the keywords related to time: Before the Artery, Artery Creation, 1960s, 1970s, Present, Future. In top of the screen some of the characters that tell us the story are enumerated: Fred Salvucci, Homer Russel, Josephine etc. And on the right there is the list of themes. Since our interest here is how thematic complexity is managed through formal innovation, the full list of the opening screen should be given: Fear, Boundaries, Activism, Streets, Tourists, Traffic, Transportation, Economics, Jobs, Protection, Expansion, Barrier, Celebration, Boston.
If compared to the compositional layout of early silent cinema, the captions can be regarded as intertitles, ordered along the frame in a tag-style manner and shown simultaneously with the moving image. This formal arrangement accommodates the random-access functionality of the automatist storyteller system. The growth of a picked keyword while the clip is playing is a confirmation, both of the user’s physical interaction and of the decentralised, ongoing search process initiated by the interaction. An additional formal quality of the arrangement lies in the interrelation between the keyword-categories as intertitles. In the early films, and in most later application of the intertitle device, we are told about the characters, where (location), and sometimes when (time), they are about to appear in the following scene. Thus, the three meta-keywords of character, location and time are not really new to the complementary textual narration. But the foregrounding of themes is very different from the sequential revelation of discrete events through intertitles as they are used in early cinema.62

The formal foregrounding of themes in the CONTOUR design strengthens the relevance of a thematic analytical approach. Most of the enumerated themes above have a direct bearing on the constructional patterns of APL. This, taken by itself, says little more than that they pertain to the same domain of experience. But to the extent that they follow a common underlying scheme of categorisation, and to the extent that they arrive at the same tentative conclusions, they enforce each other and they affirm the viewer that there might indeed be a certain kind of authenticity to their respective accounts.

As far as categorisation, a few obvious parallels could be cited. First, the concept of Boundaries reappear in many of the 253 patterns in APL. This is explained in one of the largest patterns, Subculture boundary (13).

[...the Mosaic of subcultures(8) and its individual subcultures, whether they are Communities of 7000 (12) or Identifiable neighbourhoods (14), need to be framed by boundaries in quite specific ways. In fact, the mere creation of the boundary areas, according to this pattern, will begin to give life to the subcultures between the boundaries, by giving them a chance to be themselves.

Part 2: Examples
This statement is further developed in the pattern Neighbourhood boundary (15).

The strength of the boundary is essential to a neighbourhood. If the boundary is too weak the neighbourhood will not be able to maintain its own identifiable character.

In the pattern Industrial ribbon (42) the interchange of industrial activities are highlighted.

Place industry in ribbons, between 200 and 500 feet wide, which form the boundaries between communities. ... Treat the edge of every ribbon as a place where people from nearby communities can benefit from the offshoots of the industrial activity.

In the pattern Gallery surround (166) it is the interplay between houses and its immediate surroundings that are referenced.

If people cannot walk out from the building onto balconies and terraces which look toward the outdoor space around the building, then neither they themselves nor the people outside have any medium which helps them feel the building and the larger public world are intertwined.

In the same way, most of the thematic aspects in CONTOUR can be contextualised and reflected upon from the point of view of at least one pattern. The CONTOUR theme Activism pertains to Necklace of community projects (45) “The local town hall will not be an honest part of the community which lives around it, unless it is itself surrounded by all kinds of small community activities and projects, generated by the people for themselves.” Streets, Traffic, and Transportation are depicted in patterns such as Lace of country streets (5), Local transport area (11), Web of public transportation (16), Ring roads (17), Mini buses (20), Promenade (31) and many, many more. The CONTOUR theme of Tourists could be pondered with the help of patterns such as The countryside (7), Magic of the city (10), Web of shopping (19), Access to water (25), and Night life (33), just to name a few. Economic and Jobs as themes could be studied in a whole network of interrelated patterns:
Work community (41), Self-governing workshops and offices (80), Small services without red tape (81), Master and apprentices (83), Individually owned shops (87), Small workgroups (148), and Home workshop (157). The remaining themes foregrounded in CONTOUR, including the inclusive theme of Boston, could be studied in much the same way.

This short overview confirms the usefulness of Alexandrian patterns as a tool for analysing the thematic qualities of CONTOUR and other related experiments within the documentary project. The clips can be enjoyed and evaluated for what they actually tell us about the Big Dig with APL as a guiding framework. Again, the authority of APL lies in its reluctance for elitist, centralised planning schemes. It lies in its belief in piecemeal and decentralised social processes. Individual shots and scenes of CONTOUR, or of any other architecturally related documentary, can be evaluated in relation to APL and deemed as being more or less affirmative. Indeed, if the imagery and the evidential power of such scenes go against certain patterns in APL, there would be grounds for altering and rethinking those proposed patterns. In such cases, the contesting documentary would function as a virtual extension of the specific pattern language consulted. As far as evaluating CONTOUR on this scene-by-scene level we have only the short video on the World Wide Web to go by.

The demo of CONTOUR exemplifies the kind of clips and the investigative montage that can be performed in the original CD-ROM. As a voice of the ordinary citizen, Nancy Caruso tells us about how the Central Artery caused outrages about it being “A Green Monster” in the neighbourhood when it was first built. But then, people realised that it had become a boundary, a barrier and a protection against the expansion from the neighbouring financial district. “People would get up to here, and unless they really had business in here, they kind of stayed out. Now though, we realise it is going to come down and we wonder what is going to happen.”

While she is speaking, the two thematic captions “Protection” and “Barrier” increase, along with the relevant location and character keywords. In the next clip that belongs to the same thematic track, the location is the same, the name of Fred Salvucci grows as the name of Nancy decreases, “Barrier” grows further while “Protection” decreases. In this clip Mr Fred Salvucci testifies to the great public engagement in the local questions of city planning spurred by the Big Dig project. He indicates the tremendous visibility of the project and how this has firmly captured the imagination of the citizenry. In the next clip of the demo the name of Homer
Russell grows in place of Fred Salvucci, the location North End stays the same, Central Artery decreases, and West End grows. “Protection” grows again somewhat while “Barrier” is still big but turns to grey (a sign of its decreasing “activation value”, the technical term for associative relevance). Here Mr Russel talks about how the neighbourhood has looked upon Central Artery as “a Chinese Wall”, a barrier that has protected them from high-rise development in the financial district. “The removal would signal an opportunity for wholesale clearance. They have every right to believe that, because they watched it happen thirty years ago.”

What we get in this demo is thus an affirmation of the fact that a bordering structure like the Central Artery have quite complex social functions. In CONTOUR, these functions are primarily depicted in the themes of “Protection” and “Barrier”. In APL they are visualised in detail in the patterns pertaining to Boundaries as quoted above. Even though the terminologies differ, the conceptual patterns are remarkably similar. The demo could indeed be seen as extending and animating the pattern of Neighbourhood boundary and its remark that: “If the boundary is too weak the neighbourhood will not be able to maintain its own identifiable character.” The vividness of the individual witnesses interviewed in CONTOUR express the human qualities of the community and the neighbourhood in an engaging way. In that sense the positive power of the pattern is expressed in CONTOUR much stronger than what APL and other printed media could ever hope to do. As viewers we can experience how boundaries really “give life to the subcultures ... by giving them a chance to be themselves”.

**Thematic patterns in A RANDOM WALK**

My primary goal when examining individual documentary projects is to investigate whether the Alexandrian pattern concept can be of help in formal and thematic analysis. Architecture and city planning was the subject of CONTOUR. In the other example from the M.I.T. Media Lab, A RANDOM WALK, the piece could be characterised as a biography of an esteemed scientist. The question then is – what relevant Alexandrian patterns can be found in a documentary that evolves as a biography?

A preliminary answer is that ARW animates and details one specific network of patterns in APL, the Network of learning. It does this by focusing on a specific pattern within that network, University as a marketplace. These two
patterns in APL highlight that learning is a physically dispersed but, at the same time, a tightly interlinked activity in three different regards: locally throughout many environments of the city; temporally throughout the life span of its citizens; and socially in terms of engaging a wide spectrum of social groups. One of the most central themes of APL is that learning should engage all the citizens and all the professions of the city. A few passage from the book are essential for an understanding of this overarching theme.

To detail the interconnectedness with other patterns, each preface to a pattern starts with a series of dots. In Network of learning (18) it is followed by these words.

...another network, not physical like transportation, but conceptual, and equal in importance, is the network of learning: the thousands of interconnected situations that occur all over the city, and which in fact comprise the city’s ‘curriculum’.

The words of advice that the definition arrives at gives the following picture.

Instead of the lock-step of compulsory schooling in a fixed place, work in piecemeal ways to decentralise the process of learning and enrich it through contact with many places and people all over the city: workshops, teachers at home or walking through the city, professionals willing to take on the young as helpers, other children teaching younger children, museums, youth groups travelling, scholarly seminars, industrial workshops, old people, and so on.

Figure 12. A Random Walk through the Twentieth Century (Glorianna Davenport, Cheryl Morse, and Michael Murtaugh, 1996)
The same openness characterises the words of advice regarding University as a marketplace (43).

Establish the university as a marketplace of higher education. As a social conception this means that the university is open to people of all ages, on a full-time, part-time, or course by course basis. Anyone can offer a class. Anyone can take a class.

The key role of the Master and apprentices (83) pattern in the network of learning is evident in its contextual definition.

The fundamental learning situation is one in which a person learns by helping someone who really knows what he is doing.

This becomes further concretised, even to the point of floor-layout, in the ending words of advice.

Arrange the work in every workshop, industry, and office, in such a way that work and learning go forward hand in hand. Treat every piece of work as an opportunity for learning. To this end, organise work around a tradition of masters and apprentices: and support this form of organisation with a division of the workplace into spatial clusters – one for each master and his apprentices – where they can work and meet together.

It is within this conceptual framework the thematic complexity of A RANDOM WALK can be investigated. In my first encounter with the film, the following sequences evolved. The first two sequences relate to the broader of the two patterns above, the world outside of the institution, while the five subsequent sequences relate to the daily life at the university. The clips do in no way account for the wealth of material compiled in the ARW. All seven shots are picked from the period Humanism, so for the reader who wants to continue the investigation there are eight more periods to inquire: Personal Style, Cold War, disarmament, science, peace, Vietnam, Art, and Governance. This was my first encounter with the piece and a critical test of whether the pattern language approach should reveal some of its usefulness from the very outset.

My first pick was the mosaic of the timeline labelled Humanism. This highlighted, among others, the keyword “Tom Winship” in the clouded list of keywords.
A click on this keyword in turn brought up a biographical note that told an anec-
dote about how Tom Winship and Jerry Wiesner used to meet twice a year at Jake
Wirths, a restaurant in downtown Boston, to debate the issues of the day. One par-
ticular debate that Tom Winship remembers seems to have had quite important
consequences: “For years thereafter, Jerry always claimed to me, quite seriously, that
we had hatched the strategy that day at Jake’s for the defeat of that particular ABM
program.”

A subsequent remark by Tom Winfield relates to the kind of national policy-
making that the head of a major university becomes involved in. This one is about
how the turmoil of war swept in over the campus: “When the student revolution
hit its peak in Cambridge, we talked often about his university problems. The lead-
ing figures were Jerry Wiesner of M.I.T. and Nathan Pusey of Harvard. To say their
style on crisis management was different was an understatement. Wiesner always
kept an open door for student priorities. Pusey operated through surrogates. Wiesner
kept the police off campus. Pusey brought them into the Yard. Harvard had vio-
ience. M.I.T. had peace.”

The choice of the keyword “Tom Winfield” in the clouded list transformed
the list and brought up the second sequence of my path, “community decisions”. This shot also related to how the public opinion could influence the internal affairs
of a university. There were strong sentiments among students and faculty members
during the Vietnam war that the relationship between the university and the Radia-
tion Laboratory, where Jerry Wiesner had worked during World War II, that this
relationship should be ended. Here, the Senior Research Associate Victor McElheny
gives another account of how Jerry Wiesner looked upon his role as a community
leader: “He felt, like the chief academic officer of M.I.T., the prefect, that you needed
to be letting the various opinions express themselves. To let the community at
M.I.T. reach a kind of decision about this. He certainly did not take the position that
the governing board of M.I.T. was the only authority that could have a voice in all of
this.”

The choice of “community decisions” highlighted new keywords and my
next edit became that of “art revolt”. This was about a new statue that had been
placed on campus and that raised heated debates, debates that culminated in stu-
dents covering the statue with toilet paper “It took up some of their territory.” Our
witness is Kay Stratton, First lady of M.I.T. 1959-65 and, together with Jerome Wiesner,
responsible for establishing M.I.T.’s Council for the Arts in 1971. After lengthy talks
with the administration, the statue took on new meanings for the students. “When they graduated as seniors the statue had become a campus item and the revolt gradually simmered out.”

Browsing along, wondering what to make out of all this, the next keyword became “perspectives”. Here, Paul Gray who was President of M.I.T. from 1980-90 and served as Chancellor during JBW’s term as President of the Institute, testifies about his most valuable lesson, learnt from a man that he regarded as his master. “...to listen to many views, try to get an as wide perspective as possible before coming to ones own conclusion.” This in turn led me to “multidisciplinary” where Noam Chomsky, Institute Professor of Linguistics who joined M.I.T.’s RLE lab in the 1950’s, tells us about the kind of milieu that JBW nurtured at the RLE lab. He brought in “people with no identifiable disciplinary connection” who had ongoing “talks across 20 different disciplines”. That theme is continued in “non-standard” where Louis Smullin, Professor of Engineering at M.I.T., remembers: “It was Jerry who brought in various strange characters ..., who infected the place with non-standard people, and it made a big difference for the atmosphere of the place”.

The theme of recruitment continued through the two last clips of my first viewing. In “who me?” Carola Eisenberg tells us about her appointment to First Woman Dean of Undergraduate Studies and Student Affairs by JBW in May 1972. “Why me?”, she asked him when she got the offer. “I think you can help me to humanise this place”, was the candid answer of JBW. In “acetate discs” it is Ricky Leacock who tells us about his first encounter with JBW. He was recruited by JBW to head-up the M.I.T. Film Section in 1969, but here Leacock remembers having seen Wiesner as a young man in 1941, operating the sound recording gear to document folk music at a festival. At this point in time, something struck me as having come full circle. JBW, the subject of this evolving documentary, turns out to be a documentarist himself. The investigation had lasted for some twenty minutes with the jotting down of preliminary notes and a few re-views of earlier sequences.

In this short account of one of the many paths of A RANDOM WALK, there are quite a few cues that confirm the fruitfulness of the Alexandrian patterns as a guiding framework for thematic analysis. The biographic documentary highlights aspects of temporal continuity, the interconnectedness over time, by foregrounding remembrance. The acts and deeds live on. Not only through storytelling but also through what the deeds actually contribute to over the years. (In the profilmic reality that is, a reality that seems to become a bit more accessible through this kind
Discussions in a remote restaurant may have profound consequences for how negotiations about disarmament turn out many years later. In the opening sequence, the spatial interconnectedness of the events becomes evident too. That aspect is further highlighted in many of the subsequent clips. The university becomes a focal point for broad issues in society at large. Questions about international politics, technology, art, and scientific borderlines are articulated in the debates of the day which sometimes have a direct bearing on the spatial layout of the campus setting itself.

The third kind of interconnectedness, that of social interplay, is also evident in the described sequences. Even the formulation of the individual keywords of the piece heralds an opposition to concepts of centralistic bureaucracy: community decisions, art revolt, perspectives, multidisciplinary, non-standard, and “who me?”.

As in the Alexandrian patterns that support learning, the sharp division between work and learning is contested: “Treat every piece of work as an opportunity for learning.”63 The people we meet represent society as a whole in a broader sense than what might be expected and the affinity to the Alexandrian philosophy on lifelong learning is quite evident. A RANDOM WALK gives a vivid account of how the activity of learning is a profoundly decentralised activity. That it can be seen as a network, spread out geographically, historically as well as socially. The interactive documentary brings life to all these three aspects of learning by portraying the walks of life of a respected citizen. To be able to reflect upon its many paths, pattern languages can provide useful navigational support, as well as an integrated body of experience against which the paths can be compared and appraised.

Formal patterns in A RANDOM WALK and CONTOUR

Formally, almost everything in the biographical notebook of Jerome B. Wiesner is different from the earlier examples of biographical accounts. In ERIK, A SELFWILLED LIFE, the role of the director was largely relinquished to Erik himself. In ARW, even the role of the editor is relinquished. But it is not taken over by those who are portrayed. It is taken over by us, the viewers. Temporally, we are free to follow the paths taken by Jerome Wiesner in an order, and even more importantly, at a pace, chosen by ourselves. The potential narratives are presented chronologically via a timeline and thematically via an elastic list of keywords. But the process of narrating is user-driven and open. It is supported by the theme-corroborating montage technique.
that Michael Murtaugh found inspiration for in the surrealist concept of automatism.

In respect to spatial continuity, we are invited to walk through most of the public scenes of the city: restaurants, concert halls, schools, university campuses, laboratories and workshops. The material could be characterised as a compilation of texts, photographs and conventionally shot institutional home videos. The innovative formal characteristic is the decentralised, user-driven and theme-oriented montage technique. Through the use of this technique, the surrealist concept of automatism takes on connotations of a decentralised reflexiveness. The thematic annotation provides a way for all scenes to be accessed by the continuously searching agents and take part in the process of narrating. This enables us to experience new connections in time and space, connections that up till now have been too far-reaching, or too close, to visualise.

The automatist storytelling system represents a technique that helps make the digital archiving/accessing process as fluent and as easily accessible as the digital recording and editing processes have already become. In the ARW application, you pick a square in the timeline mosaic in the left part of the screen, and the list in the middle part displays the keywords associated with that theme. When you then specify your choice in the list, it results in the display of a video clip, a series of stills or a written piece that all tell you something about the central character. The crucial activity in this process is the behaviour of the elastic tracing list. As you watch the video or read the text, the list puts your chosen keyword at the top of the list and to further reveal the keywords relating to that choice. The pertinent value of its usefulness as a navigational tool is that it does not abandon the past keywords. It keeps them in their order of appearance, as traces of where you have already been. Thereby, you get a sense of direction and you are saved from getting lost in the complexity of intertwined themes.

The general underlying pattern for this navigational device could be identified as: Split screen for navigational aid. Its context is a rich array of cinematically rendered themes. Its form is a close visual integration of the display of the thematic content with the display of navigational tools. This pattern is generated and sustained by smaller patterns such as Themes as hyperlinks. The context of that pattern in turn is the wealth of thematic threads in the metadata of the archive. Its form may be the elastic list of A RANDOM WALK, or the highlighted, expanding and shrinking lists of CONTOUR.
Persons as hyperlinks is another supportive pattern. Its context is the vast amount of persons registered in the metadata and its form is identical to that of Themes as hyperlinks in both examples. A pattern that pertain to the temporal aspect can be identified as Material-time link-layout. Its context is a prolonged time horizon – a century in the case of A Random Walk. Its form is the Timeline mosaic in that example, and the highlighted list in the Contour example. This is the traditional encyclopaedic way of displaying navigational links pertaining to the temporal scope. But there is also another pattern that relates to temporal aspects and that may tentatively be called Exploration-time link-layout. This design is the most original contribution by Murtaugh and Davenport. Its context is the autonomous agents that listen to your viewing and rushes through the material to find new associations in the metadata. Its formal expression is subtle. It materializes in the dynamic alteration of highlighting (colour, highlighted colour, grey) and movement (expanding-decreasing or alteration of sequence) in the lists used. In the traditional encyclopaedic layout, links get highlighted in accordance to a static, predefined layout of themes. In the automatist layout, it is the timing of the specific viewing process that determines the accessibility of themes and the appearance of links. Things happen as you watch the video-clips. These things are determined by the order and the duration of your watching, a time pattern that gets reflected in the appearance of the links.

My aim has been to illustrate how the pattern concept may be used as a means for tracking the design process behind the new phenomenon of evolving documentaries. I find it an intriguing notion that design patterns, which rely heavily on their indexical status, can be used to grasp media design projects that already depend on indexicality in two different ways. Firstly, indexical images in the form of timelines, lists, and frames are used to navigate by. Secondly, indexical images in the form of video-clips and series of narrated stills is that which ultimately renders meaning and that which we navigate through. Both Contour and ARW demonstrate the double functionality of the index, the visible trace. In its navigational function, the indexical technique is applied to reveal the interconnections between a wealth of other indexical images of the traditional documentary kind, the kind that fades away before our very eyes, the traditional cinematographic picture. The autonomous agents work with metadata of the visual archive, data recording other data. In that way, the chronographic, tracing interface could be characterised as meta-images of the flow of cinematic video-clips.
In conclusion, the archetypal theme of “cultural heritage” has been articulated in quite different ways in the three visual biographies of Timothy, Erik and Jerome. “The worries of an uncle” in the 1940s have been followed by “the wonderings of a father” and “the recollections of a community” in the 1990s. These shifts in perspective have been made possible by technical and formal innovation. Camera work has become more spontaneous and fluent, allowing for a greater sense of intimacy. At the same time, the editing process has opened up new dimensions of spatial and temporal interconnectedness, allowing for the recollection of personal events on a more dispersed social and historical scale. This innovative use of media technologies is now in the process of being articulated in new patterns of design. Not only on the practical level of individual projects, but on a more general institutional level. Directors have felt empowered to relinquish some of their directorial control. This process is now reaching production facilities in university settings where the institutional leadership is prepared to relinquish some of their traditional editorial control to the shared efforts of designers, lecturers, and students.
Shared 3D Workplace
Exhibitions as Sites for Community Meetings

Introduction

This chapter summarises experiences gained from an ongoing research project, “Information exchange and communication in large, distributed organizations”. The project started in the autumn of 1998 and is one of three activities within the CID program area “Digital Worlds on the World Wide Web”. Since the research is closely connected to a project led by one of CID’s sponsoring user-organisations, the presentation begins by giving a background to the motivation and methods of that project. Then a report on the practical research interventions is given. The results from two design workshops are described and key concepts of the methods employed are discussed. The chapter concludes with an outline of the planned future work in which the methodology of design workshops will be further developed as a means to engage project participants in practical design processes.

The project is initiated by CID in close cooperation with the National Swedish Trade Union Confederation (LO). A key ambition in the CID research philosophy is to develop an interdisciplinary approach to IT-design. A related ambition is to cooperate closely with members from the sponsoring organisations. The research group, with members from both CID and LO, functions as an advisory resource for the members in a national network, FRU (Union roles in local development), set up by the LO as a three year development project to support local initiatives in organisational reform. The main goal of the FRU-initiative is to evaluate the network structure as a channel for the exchange of knowledge across branches and across industrial sectors. This objective is in line with the general policy of the LO, to strengthen those channels of communication that can serve the interchange of practical know-how between union members on the local level. For the research
group, this goal puts the focus on an important and difficult question of knowledge transfer: how to document processes of organisational change in enlightening and engaging ways?

The project’s general approach to this problem is to cooperate closely with the members of the FRU network, thereby aligning the project to the tradition of participatory design.66 The group’s initial role in this collaboration was to introduce the new medium to the network members, to discuss its potential usefulness, and to train members in its usage. As this process was carried through, the more pointed task to propose design principles for depicting organisational change, the key theme of the FRU network, has become the major challenge.67

The problem of fragmented images of change in workplace studies

The lack of means to monitor the complex outcomes of organisational changes is still a relatively unnoticed problem of organisational reform in workplace environments. The problem is most evident when the processes of change are market driven and forced by rapid adaptation to new patterns of production and competition. But the problem is also noticeable in projects that directly address questions concerning the quality of work environment. Even in such projects, driven by an explicit strategy of participation and mobilisation, the difficulty of tracking patterns of change often results in fragmented and contradictory views of the processes involved.68 Employees use everyday language to express their first hand experiences of change in the work process. Technical and economic decision-makers have their own, quite different concepts and formal languages to describe change. The task to interpret these different views and to build consensus is a hard one indeed.

Much research has been directed towards developing new kinds of business ratios and indices to, in effect, make intangible factors more tangible. In relation to IT design, the ‘Bootstrapping’ methodology of Douglas Engelbart can be mentioned as an example of how overall systems design can be directed towards visualising the complex interplay between a multitude of business processes.69 In Engelbart’s vision of a mature business based hypertext system, all employees would have access to visual overviews that would allow them to examine their own part in all relevant business processes. To visualize the interplay between humans was the goal of this vision, which Engelbart himself admitted was not within reach in the
immediate future. The current interest in “Balanced Scorecards” is another sign of the need for multi-dimensional indices. In these indices the traditional scores that represent production and financial performances are supplemented with indices that depict health, social, and environmental aspects. Again, the vision is to map out and visualise complex activities carried out by networks that span a multitude of end-user categories. Still, these efforts have often been more informed by the languages of specific research disciplines than by the shared cultural values of actual work environments. Hence, the methods of presentation and visualisation are more attuned to the generalising conventions of different management professions than to the complex, domain specific environments of the different branches of industry and services. As a result, the lack of established conventions for monitoring change in ways that engage broad audiences tend to lead to fragmented images of change. This amounts to the most difficult challenge of the project, to develop design principles by which the fragmented images can be integrated in lively and trustworthy ways.

Workplace studies that build on participatory documentation

With the new labour laws initiated in the mid-seventies as an influential motivation, the LO has taken part in a long series of programs to support organisational change in local workplaces. These programs have been aimed at augmenting the quality of working life and have focused on technological and organisational change, participation in decision making and the problems of mapping structural change. They have been supported by the Swedish Employers Confederation and by different research groups. The role of the research groups have been to advise, document and evaluate the programs, from the scholarly point of view as well as from the point of view of practitioners.

The FRU-project was initiated in 1998 with the aim to build a network through which 20 to 30 workplaces could exchange practical know-how on organisational reform. The primary means of contact between workplaces are through regional conferences and printed newsletters. Informal face-to-face meetings where people get to know each other and get a deeper understanding of their respective problems is an important element of the networking. As many of their problems revolve around implementing new technologies, a special interest is expressed for how new on-line services could play an integral role in the networking process itself.
Therefore, well-established services like email, forum discussions and web sites are used in a systematic way to extend the verbal and written exchange within the community. This is also the context in which the overarching task of testing shared 3D environments as means to depict organisational change was articulated.

Shared 3D environments for community meetings and documentation

The possibilities to integrate and animate a rich array of media in shared 3D environments provided the impulse for the FRU coordinating committee to propose the research project at CID. The impulse was sparked at one of CID’s regular Open House presentations where a 3D environment made for the TCO (Swedish Confederation of Professional Employees) was demonstrated. The FRU representatives immediately sensed that this new medium had the potential to support a more direct sharing of concrete work experiences among the network members. Specifically, the potential to integrate photos, posters, sound and video clips in personal and meaningful ways seemed challenging. The sense of presence was also something the FRU representatives expressed as an important quality of the medium. That the user/visitor is depicted as a named avatar in the company of other visitors seemed to provide for a more informal experience than in the other media already applied by the network. The newsletter, the 2D web, and the discussion-forum supplied finished documents with a clear message and motivation. The shared 3D space on the other hand, supplied an environment to meet colleagues in a more relaxed and less goal-oriented atmosphere. The game-like object environment, the ease of navigation, the possibility to chat via the keyboard with old and new colleagues were other qualities that influenced the decision to start a joint research project.

Since the research should be carried out in close cooperation with the FRU-network, some of the guiding principles for the research project was inherited from that initiative. The 3D environment should function as a compliment to the other media used by the network. Thus, it was up to the regional networks themselves to decide to use the new medium as an arena for meetings and exhibitions. It was they who should learn how to build and how to present their exhibitions to old and new visitors. This gave the project group some clear cut responsibilities. The group had to present the medium and its possible applications to as many of
the members as possible in a concise, inspirational and yet realistic way. It had to instruct and guide the members that choose to try out the medium in a time efficient way. And it had to act as a technical resource and as an advisor on technical and design-related issues in close cooperation with the coordinating committee.

To demonstrate the possibilities of the medium meant that the group had to prototype a group of simple 3D environments that belonged to the subject domain of the network. The TCO prototype was made to present the activities at the TCO Development Unit, activities that included the globally accepted TCO’95 Certification Program for computer monitors and other related certification programs. But the FRU network had a much wider scope – to visualise ongoing, local organisational change that benefited employees as well as employers and could function as good examples to follow. And the focus was on subject matter. The formal designs had to be simple enough for the untrained membership to (re)construct, yet rich and varied enough to compliment the other media in use. This led to the building of a series of four straightforward 3D sites that each documented the work environment of a specific workplace and which all were made in close cooperation with members from the respective network, (a veterinary clinic, a farming school, a bakery, and a mechanical plant). The idea was that these sites should give concrete ideas for the membership to discuss, they should function as seeding sites to be iteratively refined, or dramatically reshaped, by the networks themselves.

The prototyped sites demonstrated the use of some of the basic object types in the environment: grass, floors, walls, ceilings, windows, furniture, and display devices such as signs and monitors of different sorts. It made heavy use of photos and it tested a range of compositional options: different layouts for narrative texts, hyperlinks to associated websites, hyperlinks to QuickTime movies and sound-clips, and “chronological building” (arrange successive versions of a building so that they appear elevated above each other in sequence, see “Time-layered building” below). The sites worked well enough for the demonstrations at regional conferences and network meetings to spur lively discussions about a wide range of issues. Some of them, often the most controversial, concerned the social and linguistic aspects of the medium: its added visual, cognitive, and social values. Other issues were more concerned with the practical and technical aspects: ease of use, cost of construction, cost of maintenance, stability of infrastructure, practical ways to arrange showings and updates etc.
Even if the practical results from the project’s first year mostly took the form of prototyped sites and demonstrations, much of the time was dedicated to reflection and discussions about the first kind of questions listed above, those about the compositional and narrative opportunities of the new medium. The network members were encouraged to use short, diary-style notes for their documentation. One idea in the research group was thus to use these diary-notes, with added media, as raw materials when creating and supporting the 3D sites. This way the environment would enhance and extend the existing network in a transparent and adaptive way. The challenge would be to let the 3D sites evolve in the form of a cooperative, visual diary. In such a diary, the experiences reported in written notes, photos and video clips would be accessible for continuous analysis and comments by the members themselves. If such a stepwise evolution of the sites would gain momentum, it would mean that the overall management of the environment could be taken over successively by the members, and member organisations, themselves.

In open and recurrent discussions over the network, members would be encouraged to articulate and map out, step by step, the essential services they would like to see developed in the medium. This was the vision during the first year. But the task to develop a pedagogical framework for such a collaborative visualisation became a theoretical challenge for the project. If it is difficult to visualise organisational change in a multifaceted and engaging way with the relatively well-known media of photography, film, and computer graphics, how should one promote such visualisations in a medium that is less well known? And how should these 3D visualisations be carried out in a cooperative and self-regulating way? These questions led the group to the concept of design pattern, a pedagogical approach to the problems of participatory design. Before the application of that concept is presented, the practical work during the project’s second year will be briefly reported.

Design workshops for training and planning

In the autumn of 1999 the CYBERYARD (CYBERBYGGGET), as the prototype had been nick-named, had been shown at two of the national conferences, and at many smaller gatherings. A sufficient number of members had registered their interest to arrange two workshops, where the members could learn how to navigate and build their own sites. These workshops were held in September and November. They covered
two days each, were attended by a total of 17 members, who came from seven local networks, and who worked in groups of two or three on their own terminals. The first day gave a deeper introduction to the medium and provided time for navigational training, building instructions, as well as for general experimentation and play. The second day was reserved for the groups own, independent building projects. They had been informed about this task well in advance of the workshop. And they had been asked to bring digital images (preferably images accessible directly from the web) and the exact web addresses to sites that they would like to link to.

From the start of the project, the 3D modelling functionality had been acknowledged as an interesting possibility for doing schematic recreations of concrete spatial workplace environments. This general interest among members had now crystallized into two models for exhibitions. In one model, called “The layout-tool”, teams from a workplace were envisioned to recreate their own workplace in 3D, as they wanted an actual physical redesign to look. The basic idea is that all colleagues in a team can take part in discussing and trying out different solutions. And this can be done in a very pedagogical way – through doing actual walkthroughs, either individually or in groups where the fellow team members are represented as avatars.

The other exhibition-model feeds more on the possibilities for shared presence in the 3D environment. “The network info-kiosk” is a model for the local network to present itself in a more personal and lively way than what can be done on
the 2D web. In a 3D kiosk, in the company of other network kiosks, the network members can present themselves through portraits and images from their job-settings and their colleagues. Short résumés, lists of contacts and notes on current engagements in other projects can be supplied, either in the 3D space or through links to a group of related websites.

Both these ideas for how the medium could be applied in public and purposeful ways had evolved in the ongoing discussions at conferences, meetings, and in the electronic forum of the network. At the workshop, two of the seven groups had prepared to implement “The layout tool” while the other five groups built kiosks and exhibition areas of different sizes and styles. Six of the seven groups managed to create a construction they were happy to present for the other groups and which they hoped to update and add to after the workshop. (The group that did not reach lift-off had engaged in a very ambitious task of recreating their own workplace layout in a meter-by-meter reconstruction.) The concluding discussion of both workshops confirmed that the medium in the eyes of the membership had definite possibilities to complement the other media already in use. The technical stability, the ease of use, and the broad range of expressive possibilities were unanimously deemed sufficient. The remaining questions dealt with questions about public contexts for exhibitions and about the cooperative procedures needed for building and updating them. This general conclusion – a confidence in the technology and a constructive curiosity about how to apply it – is reflected in the videotaped interviews made with each group towards the end of the second day.

The participant’s six info-kiosks and workshop layouts resulted in a new exhibition area adjacent to the prototyped sites. It was named “CyberSchool” (Cyberskolan) and it provides an interesting manifestation of the versatility of the medium in the hands of untrained computer users. One of the comments made repeatedly in the interviews was that the 3D space seemed to be a much easier environment to start documenting things in, than what the members had experienced from the usual 2D web space. The participants had been encouraged to discuss and write down difficulties with the interface during the workshops. This gave the research group an important complement to the interviews, detailing the participant’s demands for technical improvements. Some of the recurring demands in these lists were: an inventory of avatars and objects that better fitted the subject domain (“ordinary people” in “workplaces” rather than “fantasy characters” on “playgrounds”); these demands were sometimes concretised through proposals for new
object and avatar designs), a more flexible access to object inventories (tables with micons of objects complementing the existing object yards), and more transparent editing procedures (“drag-and-drop” and “copy-and-paste” instead of textual registering and object cloning). A fourth outcome of the workshops – besides actual buildings, interviews, and demand-lists – was the decision reached by the FRU coordinating committee to invest in a new server, dedicated to the expanding 3D neighbourhood. A fifth outcome that may be noted is that at least one of the groups have made regular updates and addition to their exhibition site since the workshops, and that three more groups have signed up to participate in a joint presentation at the LO Congress, taking place in the beginning of September this year.

Even if most of the development work in distributed 3D-environment up till now have been confined to the IT-labs of industry and universities, there are interesting projects which involve broad groups of non-(computer)specialists.74 The CyberYard project is strongly influenced by such initiatives to broaden the social scope and to emphasise the elements of participatory design. Even though very few of the network members have any thorough experience of computer use, their know-how in work organization makes them domain experts in a strategic field. The user-centred approach of the project has been acknowledged in seminars and in a recent scientific evaluation of the research carried out by CID.75 One of the research directions regarded as being of special interest was the broad involvement of end-users in a new and untested field of application. The use of design workshops was also considered as an interesting practical method to articulate demands relevant to specific end-user contexts.

A framework for documenting design issues

An important task in the project is to develop a conceptual framework that supports the network members in their future management of the 3D exhibition and meeting arena. The identification of design patterns is one possible approach to that task. In the earlier chapters, I have already outlined how this methodology has a growing number of followers, in fields as diverse as Architecture, Object-Oriented Programming, and Human Computer Interface design. One of its main strengths is that it provides a simple and standardised way to document useful design solutions. Recurrent patterns of proven functional and aesthetic value are described in a non-technical language focused on the aspects of context, purpose, and reasons
for sustainability. The identification of significant patterns from a specific application domain results in a comprehensive list of design elements where each element has a clearly stated supportive function in relation to the other elements. Through its use of a non-technical, yet precise language, the goal of the approach is to provide a common ground for inter-disciplinary studies that span fields such as information design, physical and cognitive ergonomics and organizational design. Thus, one of the most comprehensive lists of design patterns for human-computer interaction has the title COMMON GROUND. It is compiled by Jennifer Tidwell at the M.I.T. and it is one of the texts that has been inspirational for how the project has chosen to document technical details and design issues.

If arranging demonstrations and design workshops have been central collaborative design methods in the project, the identification of design elements has been the key challenge in respect to conceptual methodology. In order to present the results from this effort, the following pages will enumerate the main features of the underlying technology – the shared 3D environments – and the application domain towards which this technology is geared – workplace exhibition and meeting sites. The presentation will not be made in the often quite rigorous design pattern formalism. Instead, a more relaxed formalism will be used, inspired by the strategy to start mapping dialogues with a broad compilation of interrelated design elements before the individual elements get formally described. Thus, significant elements from the projects different levels of design will be identified by giving them a telling name and by briefly summarizing their function. In this way, the wide spectrum of relatively independent elements can be identified, from the level of single operational interface features to the successively higher levels of application specific solutions. First, Active Worlds™, the software environment used in the project will be briefly described. Then some of the composite elements of the TCO and LO prototypes will be presented. In a concluding section, this approach to identify elements for reuse will be commented in respect to its possible pedagogical value.

Features of the software package
Active Worlds™ (AW) is currently one of the most widely used software packages that provide a shared 3D environment for educational and recreational applications. The software has been used in both the LO project and the preceding TCO project. It is delivered in the form of a downloadable web-browser that automati-
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cally links the user to a preset “universe” (a 3D server, i.e. the equivalent of a web server). The following short list describes the characteristic set of features of the environment. Some features are common to other 3D packages, and some are not. Each feature can be analysed in terms of the lower level elements that make it unique. But the point is not to give exact and complete descriptions. It is the very opposite. The point is to describe, with as few words as possible, the unique combination of elements that makes the design as a whole different from other software designs.

Shared 3D scenery. The main window of the browser is where all users are represented as avatars and where the 3D objects and landscapes are presented as a separate “world”.

3D avatar presence. The user can choose one of up to 20 or 30 representations, depending on in which “world” the visit takes place.

Arrow-key navigation. The user moves the avatar via the arrow-keys (up for forward, down for backwards, left for turning left etc)

Chat window. The chat window supports user communication by listing the ongoing dialogue between the present avatars.

2D-browser window. The web-window provide opportunities to enrich the 3D environments with added textual and visual material, such as QuickTime movies and QuickTimeVR panoramas.

Object construction window. Right-clicking on an object opens its dialogue window where a set of buttons supports cloning, positioning, and textual specification of object type, descriptions, and attributes to be set.

Object repository. The AW universe server supplies building yards in which users can scan and choose prefabricated objects to build with.

These main features are supported by a range of supplementary elements. Some support explicit user expressions such as Text signs; and Picture-displaying objects. Others support user navigation and construction, such as World, Teleport, Contact, and Help list window; Teleports; Telegrams; Activation triggers etc. What is more important in this context, is to try to identify composite elements that can be constructed in a purposeful application of these basic features. In the following section, these constructs will be called “composite elements” to indicate that they are not part of the software as such, but that they are constructed out of its basic elements to serve a specific purpose.
Composite elements in the TCO prototype

The overall purpose of the TCO prototype was to inform members and the public about the different environmental certification programs managed by the TCO Development Unit. A more specific goal was to exhibit a virtual version of the Green Office, an exemplary office-space on exhibition at the TCO head office in Stockholm. Other goals were to promote the Unit’s ideas on employee participation in local workplace redesign, and to exemplify how a 3D meeting place for experts and laymen could look like on the Internet. The prototype was built as a virtual Congress Arena and it was displayed at the exhibition space of the TCO Congress in May of 1997. The following list of elements outlines the overall design of the prototype, what role each element plays, and to what extent they can be found in other AW worlds.

Invitational posters. Posters displaying home pages from the congress website and from some of the bigger member branches were placed near the entrance of the Arena to greet visitors and to give them an idea of its themes. This is a recurrent element in many, but not all, of the AW worlds.

Central exhibition spot. The main path led up to a presentation of the Green Office, marked by a computer on an office table, around which posters displaying the related certification programs were placed. A clear sense of a centre, or many logically arranged centres, can be found in the more ambitiously constructed AW worlds.

Media attraction. The screen on the computer at the office table displayed a photo from the actual office. A click on the photo starts a QuickTimeVR panorama in the 2D web window in which visitors can navigate to get a comprehensive image of the office space. Although this is a common element in 2D sites, we have not found any corresponding examples in the AW worlds.

3D to 2D poster. Digitised images of web pages and program logotypes indicated what subjects could be further studied in the 2D web window. This is

Figure 14. Members from Oline, one of the seven local networks attending the CyberYard design workshop in October 1999
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a common element, although the degree to which the content of the poster reflects the subject of the web page varies considerably.

Composite elements in the LO prototype and the workshop exercise yard
As the scope of the shared 3D environments was extended from one office department to a network of ten to twenty workplaces in the LO project, new elements were tried. Some elements that were reused received extended meanings when the visitors of the world were invited to become co-designers and when the institutional framework became less formal. Thus, Invitational posters in the LO site not only present the member unions of the LO, but also portray the people building the actual site. The photos portraying them contribute to a sense of the informality of the site and make clear that visitors are welcome to join the discussions and, ultimately, the building effort.

Neighbourhood building area. By placing new workplaces and kiosks within eyesight from each other in the prototype area and in the exercise yard, these areas could grow in independent and organic ways. However, to mark the different histories of these two areas, they were kept apart. As the exercise yard has grown bigger, the necessity to set aside new independent areas has become a recurrent issue in the network discussions. Many of the AW worlds are too stretched out in space and therefore quite time-consuming to navigate for the inexperienced user. Solutions to the problem of subdividing dense areas are very different between different kinds of worlds.

Common entrance to neighbourhoods. When the prototype and exercise areas became bigger their respective entrances were joined and displayed as one common entrance. Ambitiously built worlds in the AW universe all have common entrances to their multitude of neighbourhoods. However, how they balance between informative openness and enticing secretiveness varies strongly.

Self-declarative object. The Object construction window lets the user write a short description of the object which is then presented as a pop-up window when visitors point at the object. The growing complexity of the LO world made it important to support the visitors with these guiding elements. As with Common entrances, the degree to which these elements reappear in the AW worlds depends heavily on the purpose of the individual world.
Programmable navigational guide. As an experiment, an avatar was programmed to answer simple questions about the layout of the exhibition. Such “bots” appear in some of the other AW worlds, even if they have not, as of this writing, acquired any stable roles as navigational guides.

Path of photos animate workflow. To give the atmosphere of an individual workplace, the layout of a set of photos, accompanied by sound- and video-clips, became a device that was reused at several occasions. As the application of the LO world is quite unlike most other AW worlds, we are not surprised that similar arrangements are hard to find in the other AW worlds.

Series of photos highlights organisation. In a recent exposition by one of the networks, the logic of “following the paths of the product” was replaced by “following the re-integration of the plant”. By arranging contrasting photos according to the “before and after” pattern, grouped strings of photos tells the story about a recent reorganisation at the Cylinda plant in the southwest of Sweden.

Timelayered building. (See “chronological building” above.) The height dimension, building in successively overlaid layers, was used in the prototype to give a historical perspective on a (fictional) reorganisation. An interesting variation of this device is to make a scenario about the envisioned changes within the coming years. (See also Appendix 1.)

Poster signals community events. This is another element related to the temporal dimension and which enables visitors to coordinate meeting and building activities. By posting notices about coming events at the relevant sites, passers-by can be invited to join in. This is one of the most common elements of popular AW worlds.
The composite elements of the two prototyping environments all identify spatial forms that meet a certain set of contextual requirements. Keeping the definition of elements short and concise to start with, will hopefully help the researchers and network members to share their views on each element and on how they interact. The conciseness is essential for the research group to become listeners, as much as advisors, in the dialogue with the network members.

Issues for further research during the projects last year

One of the main issues for the project during its last year is to develop a shared understanding for reusable design elements in shared 3D environments. On one level, this has to deal with the rather strict formalism of design patterns as they are currently used in the HCI community. Therefore, discussions among researchers and practitioners about relevant design elements and rationales have to be intensified and recurrent patterns from other 3D environments have to be compiled. Parallel to these efforts geared towards documentation and critical discussions, empirical tests may give additional insights regarding the functionality of certain recurrent elements. But it is probably the intensity, depth, and continuity of the dialogue between designers and practitioners that will be the main criterions for success. Since “design workshops for network members’ seems to be a functional institutional pattern, perhaps “workshops for design documentation and sharing” can prove to be a sensible way to intensify the dialogues on documentation.

Shared 3D environments, or “Desktop VR” as the medium is also called, is a very flexible media technology that can integrate a range of other media formats. And these environments can be distributed on mobile PCs, not only on the desktops of workshops and offices, but in the reception halls, the cafés, and the seminar and lecture rooms. To the extent that Desktop VR can realize its potentials for emulating the medium of film by accommodating relevant conventions from that medium, Desktop VR may soon be used by educational and research institutions that study issues of productivity and work organization. Since one of the strengths of the technology is to make the environment distributed and shared by many different categories of users, there are definite possibilities that the 3D environments can function as important bridges between local workplaces and these institutions. With such a long-term scenario in mind, a broader set of contextual issues has to be considered.
With what particular institutions will future workplaces, schools, and research centres choose to share their environments? From what existing media environments will they recruit their producers, designers, and technicians? Which authorial posture will the producers choose to adopt in their respective VR environments – the expository, the observational, the interactive, or the performative – to borrow the terminology of documentary filmmaking? Which existing genres will they choose to build on – the scientific documentary, the sociological or anthropological case-study, the biographical portrait, the historical chronicle, the personal or the cooperative diary – to name a few of the generic patterns that we recognize from documentary films?

Alternative answers to these questions will suggest alternative sets of design patterns – how navigation is provided for, how objects and participants are represented, how problems/conflicts are accounted for, and how we as visitors are guided, or lured, into their resolution. By raising these questions about alternative paths for media development, the project hopes to support the network members in their effort to integrate the 3D environments into a sustainable organisational setting. Common vocabularies for identifying design elements are essential in the practical, cooperative building process. But to be able to envision the long term use of these buildings it is important to reflect about institutional patterns and generic contexts. And in the case of the FRU network, this is not only a concern for the coordinating committee and the LO leadership, it is an obvious interest for each and all of the network members.


later be elaborated – stretched out, tempered, and complicated – through the use of successively refined rhetorical, narrational, and compositional patterns of composition. The preoccupation with the sensuous and sensational on the part of digital artists of today, thus seems to follow an underlying historical pattern. Gunning identifies the period 1907-1913 as “the true narrativization of the cinema” (page 60). The contemporary documentary examples presented in this thesis can be seen as being part of a corresponding transitions away from the self-contained Attraction as the dominant principle of composition.

2 Page 34.


4 This is the message of Trade Tattoo (1936), a short animated film made by Len Lye, a close collaborator to Humphrey Jennings. It is highlighted in Rachel Low’s Documentary and Educational Films of the 1930s (London: George Allen & Unwin, 1979), page 107, and it deserves highlighting again, as a poem both characteristic of its time and of today’s heightened demands on synchronisation.

5 Low 1979: 211-27.


8 Winston, 1995, p. 27.

9 Winston 1995: 26. The conceptual framework used by Winston to compare these two artistic movements — Working methods - Subject matter - Purpose - Justification — bear a striking resemblance to the genre perspective as I have presented it in Part I: Formal patterns of design - Thematic patterns of content - Purpose - Shared understanding (- Community of users).


11 Low 1979: 86.

12 Low 1979: 105.

13 Erik Hedling, in Brittiska Fiktioner; Intermediala studier i film, TV, dramatik, prosa och poesi (Stockholm: Brutus Östlings Förlag Symposion, 2001), agrees with Brian Winston that this project of documenting one particular day, the 12’th of May 1937, with the help of thousands of volunteers, would be very influential for Jennings later filmstyle, (Hedling 2001: 102). Much of the original archive can be searched at http://www.sussex.ac.uk/library/massobs/ (Accessed 2001-09-17).

14 Low 1979: 86 and 152.

15 Barnouw 1976: 146.
Notes

16 Ibid. 145-6.
17 Ibid. 146.
18 Ibid. 144.
19 Ibid. 146.
21 Hedling 2001: 89. “Basen för Jennings’ originella poetik var nu som senare föreningen av
det oförenliga (...) att just förena det skenbart oförenliga och därmed undvika ‘mästerverkens
förtryck’ i syfte att ‘förmänskliga’ omgivningen.”
24 Hedling 2001: 95
25 Ibid. 96.
27 Alexander 1977: 35.
28 Hedling refers to Kenneth J. Robson “Humphrey Jennings: The Legacy of Feeling”, Quar-
terly Review of Film Studies 7, 1, Winter 1982, page 44; and Anthony W. Hodkinson and
Rodney E. Sheratsky Humphrey Jennings: More than a Maker of Films (Hanover and Lon-
29 Low 1979: 153.
30 These are just a few of the many patterns of APL that the film highlights and which can
inform it with new meaning. See the chapter about the Jennings films for a more elaborate
discussion about patterns as a vehicle to describe and interpret thematic aspects.
31 Dick Idestam-Almquist in a presentation given at the Documentary Festival in Stockholm,
9 March 1998.
33 Winston describes the Holzman diary as a “fake (and hilarious) ‘documentary’ ” and charac-
terise the central character as a man that “would sooner film than fornicrate, or do much else,
in his quest for self-understanding via image making.” (Winston 1995: 202) In Joe and Maxi,
Winston sees a “classic case-text” where filmmaking is turned into a “species of therapy”,
although not to the benefit of both individuals involved, the daughter-filmmaker and her
cancer-ridden father. The latter complains that “I am not a document. I’m a person.” (203)
34 In The Love Tapes (Wendy Clarke 1978) a mobile booth with a set of interchangeable
backdrops (and musical accompaniments) have offered a “screen-mirror” for thousands of
passers-by in public places who have been invited to make a three minutes confession on
the subject of “love”, to be viewed in public if the confessor also granted his or her permis-
sion. In Renov’s words, these tapes “tap remarkable, and unpredictable, affective wellsprings
in troubled youth, guilt-stricken fathers, adoring dog-owners, those who have lost or never
known love … a reversal of broadcast fortunes close to Brecht’s dream, the television stops
talking and just listen”. (Michael Renov, “Video Confessions”, in Michael Renov and Erika
In *Ken and Louise* (Wendy Clarke 1991) the video-letter offered a similar, but much extended space for self-reflection, since in this setup the sharing of emotions and experiences was bidirectional. Ken, a black prisoner, and Louise, a white college teacher, are both given videocameras to record letters, which they are allowed to replay, and reshoot if they so chose, with Wendy Clarke as a facilitator and go-between. Renov finds the encounter between Ken and Louise to be a representative example of the 15 tapes in the “One on One” series. “The connections made between these individuals are remarkable, crossing as they do barriers of race, class, gender, age, and sexual orientation.” (Page 92.) Renov compares the processes that takes place in these mediations to what Freud described as positive transferrence, a removal of repression aided by an emerging attachment to the analyst. “The wonder of the ‘One on One’ tapes is that the transference tends to be both mutual and reciprocal … the openness of the one induces greater openness in the other in a kind of therapeutic spiral.” (Page 92.) In the third video project mentioned here, *L.A. Link* (Wendy Clarke, 1996), Renov collaborated with Wendy Clark in a community experiment linking two very divers schools, “separated less by geography than by socially-constructed barriers of race and class of the sort that have historically fueled civil unrest in L.A.” (Michael Renov “Technology and Ethnographic Dialogue”, page 6.) In this project, the “installation” comprised computer-based videoconferencing setups, enhanced with Hi-8 cameras for the preparation of diaries and video-letters at both ends of the link. With a general aim “to engender creative collaborations across the gaps of space and cultural difference” the project engaged five participants from each site. Even if the link did not provide as a secure and directed channel for sharing as the two earlier projects, Renov concludes that this socio-technical installation could also afford moments of rich communicative exchange. “L.A. Link explored a new species of dialogic encounter, creating a vehicle of communication both for the eye and the ear. But, despite the unyielding fascination with the yoked image of self and other which the apparatus makes possible, it is the ear which dominates. L.A. Link, at its best, was a tool for reception, for listening.” (Page 9.)

35 A typical example of this kind of artwork would be the literary hypertext *Afternoon: A story*, characterised by Espen Aarseth as an “antinarrative” and deriving its attraction from its apparent lack of meaning, see my section “Genre as manifestation of rhetorical and narrational patterns” in Part 1.

36 Peter Hughes discusses this problem in “New digital media and the project of documentary” (Paper presented at the Visible Evidence Conference VI, 1998 in San Francisco). “It is this integrative function which seems to be lacking in much of the new digital work to date. This is neither to deny that audiences read film and television documentaries from a multiplicity of perspectives, nor that the archive of material in a CD ROM embodies a set of cultural assumptions. The documentary is not an archive or a library, but an interpretation of, an argument about, material from that archive or library.” (http://www.sfsu.edu/~visevcon/
The practice of explicitly stating the interpretative problem of the film is closely related to the concepts of indirect address, voice, perspective, and argument in non-fiction theory. See for example Nichols 1991: 39, 128-9, and 281, note. 17.

The parallels between OSC and APL in terms of individual socio-spatial patterns are so intriguing that it goes beyond the scope of this study to try to describe them all. Virtually all APL patterns that have been quoted so far may be identified in OSC. The way they turn up deserves a study of its own.

This simultaneous sensation of familiarity and strangeness in the face of historical documents could be further analysed in light of the Shklovskijan term ostranenie, a term mostly used in the analysis of theatrical drama and literary fiction. See for example Aarseth 1997: 108-111.

A short note should be made about some minor technical shortcomings in The Day After Trinity and Our Secret Century. Both CD-ROMs lack the copy-paste feature that is available in most encyclopaedic titles, for example in the Microsoft title Cinemania. This lack may be due to copyright considerations. But if this standard feature was included, enhanced with network facilities for encryption, updates and exchange, the extended usefulness of the programs in educational settings would increase their chances for becoming commercial successes considerably. The introduction with a personal appearance of Prelinger himself in Our Secret Century is nicely made with video overlay of key scenes from the films mentioned. But the control of that footage differ in exactness from the rest of the material which makes it awkward to replay and reflect upon. A more thorough indexing and cross-referencing of each Volume, and of the series as a whole, are other features that could be requested. In The Day After Trinity a somewhat incoherent functionality of the four contextualising schemes results in a similar, initial awkwardness in the navigational experience, (as does some incompatibilities in playback of the CD on certain computer configurations).

The video-cassettes can be ordered at http://shop.pbs.org/products/A3364/. Accessed 991004.

The series is energised with very personal performances by Robert Cringely and by those he portray. In this sense it exemplifies the mode of performative documentary as proposed by Bill Nichols, distinguished by an expressive and often (self)ironic stance of the filmmaker. See my section “Modes of representation and the concept of genre” in Part 1.

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45 Many of the most influential news providers are among the sponsors of the Lab and one of the research areas is called News of the Future.

46 The points presented here are taken from a broad presentation of the Media Laboratory in Stockholm, February 1998, made by seven of their senior researchers.

47 It is difficult to determine how representative of the Lab’s work these principles are. As of September 1998, there are a total of 110 faculty members and staff at the lab and the enrolment totals more than 300 graduate and undergraduate students. The written presentations of the Lab are very extensive and the individual projects keep changing as the surrounding institutional and industrial scene changes. The difficulties to transform the principle goals of the Lab to a Scandinavian cultural context will be touched upon in Part 3. However, in this context the principles of the declaration gives a good background to the creative goals of the Lab. (http://www.media.mit.edu, accessed 1999-09-22.)

48 The documentarist as facilitator is discussed in the section “Personal diary – a broadcast”.


52 Murtaugh 1996: 33.

53 See my introductory section “Contextual visualisation that supports user navigation” for references to this critique, and the section “Analysis of space-time patterns in the contents of media networks” where I specifically discuss the propositions made by one of the most influential critics.

54 Murtaugh 1996: 33.


57 See the section “Modes of representation and the concept of genre” for a background to the term “reflexive mode of representation”.

Aarseth notes that contemplation is a characteristic mode of reception in adventure games and he even finds support for this quite radical re-evaluation of the adventure game genre in one of the few doctoral dissertations on the subject, Interactive Fiction as Literature: The Storygame!Adventure! by Mary Ann Buckles: “As Buckles observes in her critique of Niesz and Holland, adventure games have ‘a strong contemplative quality’ that these authors seem to overlook. A typical adventure game is not mastered by being ‘read’ once but by being played over and over, as the way we reread a great and complex novel.” (Aarseth 1997: 113-114)


60 Murtaugh 1996: 40.

The fact that two of these three patterns, self-reflective processes and adaptability, refer to dynamic qualities does not, in my view, conflict with their status as patterns. To be able to characterize unique traits of a dynamic medium, we have to be able to describe their dynamic aspects in terms of changes on different levels. The key character of a design pattern is its symmetry, that which stays the same while something is in movement. In that respect, movement and activity is inherent in all patterns. Parallels could be drawn to music where the concept of patterns is used to describe the intertwined and multilayered changes in the overall tempo, in the rhythmic figures as well as in the changes in musical keys and tonalities.

62 That this overlay of themes is multidimensional (many simultaneous, interrelated themes) and that it is interactively accessible are two other important differences from their early predecessors.


64 This three-fold use of indexical patterns may be conceptualised according to its typical user-function: as designer-navigation (index as design pattern), as end-viewer navigation (index of courses of events), and as end-viewer interpretation (imprints from the actual world in video-clips).

65 The project is lead by Sören Lenman, head of the CID program area “Digital Worlds on the World Wide Web”, Åke Walldius is responsible for project workshops and documentation, and Filis Sigala, a research assistant at the LO, is responsible for media coordination in the associated LO project. The FRU network involves most of the 19 branches of the LO and engages some 200 members organized in 20 regional networks. For more details, in Swedish, on the FRU-project, see http://www.lo.se/kal, (accessed 2001-10-16).

66 See Bødker 1987 for an early example in which researchers cooperated closely with graphical workers as domain experts in practical developmental work.

67 Different ways of engaging community members in documenting their own history with film has been discussed in Winston 1995:199-202 and in Ilisa Barbash and Lucien Taylor Cross-Cultural Filmmaking – A Handbook For Making Documentary And Ethnographic FilmsAnd Videos, (Berkeley, University of California Press, 1997), 51-89.
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68 Lars Bengtsson, M. Bundy and N. Ljungström Den medvetna verkstaden (Högskolan i Gävle, 1999).


71 See Göran Brulin and Tommy Nilsson Läran om Arbetets Ekonomi – Om Arbete och Produktivitet i Modern Produktion (Stockholm:Tiden, 1995) for an overview, in Swedish, of some of the long-term results of these programs.

72 This was the twofold research task inherited from the FRU initiative. The project should examine the potential for shared 3D environments to support the network with meeting places and exhibitions animating organisational change. And this examination should be carried out together with the network members, to guarantee that the knowledge gained, and the environments that were built, would benefit the network in the long run. The task brought in a range of research perspectives: the potential for 2D and 3D visualisation methods to account for complex changes over time (Tufte 1997, Wilkinson 1999, Waterworth 1999), such visualisation methods applied to the depiction of organisational change (Greif 1992), and, in particular, such organisational visualisation methods applied to shared community usage (Alexander 1977, Barbash 1997). It was in the reunion of these multiple perspectives the pattern language approach was found to be a robust, yet surprisingly flexible, conceptual tool.

73 The CyberSchool can be reached by downloading the LO Universe browser from http://aw.nada.kth.se/cid.exe (Accessed 2001-09-23).


78 http://www.activeworlds.com

Part 3

Discussion
In this chapter I will examine the applicability of my preliminary analysis in terms of its prospects and limitations in relation to one neighbouring conceptual frameworks of the domain. I will start by restating the problems that have spurred my search for a framework in which the interplay between technological and formal innovation in documentary filmmaking can be accounted for. This will result in the formulation of a set of requirements for interdisciplinary applicability of such a framework. These requirements detail in a more systematic fashion some of the qualities I have discussed as essential for understanding the ongoing digitalisation of documentary programming, i.e. an audience/user awareness, an interdisciplinary openness, an applicability of the analytical framework to a wide range of media technologies and an applicability to documentary works that span a wide range of time periods. Some of the requirements are derived from the framework of genres, others from the design-pattern approach. Thus, the following discussion, about to what extent my analysis has met the stated requirements, is inspired by the criterion of noncontradiction between conceptual frameworks, as presented in the Introduction. To be able to assess the examples analysed in more detail, I will elaborate two of the patterns I have identified by presenting them in one of the established formats for pattern compilations, a format proposed by Jenifer Tidwell at the M.I.T. MediaLab.

Problems of current discourses on digital media

A common problem of many debates about the consequences of digital technologies on film and television is their limited scope, a limitation that seems to come as a consequence of the strong professional specialization in the industry. The cultur-
ally most prestigious of these debates centre on the creative and artistic consequences of digitalisation. In museums, galleries, and with occasional appearances at universities and tradeshows, powerful digital art installations provide illustrations for debates about new realms of sensuous expressiveness and new inspirational sources for the artist. More theoretically inclined debates about aesthetic consequences, in scholarly articles, essays, seminars, and conferences, tend to centre on a set of expressive devices that confirm the newness of the artwork, the altered roles in artistic teamwork, and the extended sensitivities required for audiences who want to experience the newness of art. Yet more comprehensive debates try to extend the aesthetic considerations into the realms of social and ethical concern. Such debates tend to centre on the legitimacy of existing media apparatuses. In editorial articles, conferences, and seminars on the future of film and television the decreased authority of certain media institutions is discussed with reference to a broad range of sociological and judicial explanations, such as changes in patterns of popular demand, in media regulations, in interpretations of those regulations, in recruitment of personnel, and in institutional economics. Last, but not least, debates among technologists oscillate between, on the one hand, the quest for serving industrial users with technical solutions to their articulated needs, and on the other hand, the quest for more long-term autonomous technological development, with reference to accepted values of peer scientific and engineering judgment. In journals, seminars, conferences, and trade shows new technical features of emerging recording, distribution, and projection facilities dominate reports geared either towards rapid industrial implementation or towards more long term technological examination.

Obviously, all these debates are legitimate and important in their own right. They all reflect the needs of different media related communities to share their common understanding of contemporary media history. Sponsors, artists, and yet-to-be-artists need to re-negotiate artistic values in more or less ceremonial settings. Critics and lecturers who are asked to reveal the inner mechanisms of contemporary artworks need to identify and share among themselves the essential characteristics of the new elements of expression. And professionals who do not explicitly build their legitimacy on artistic success need to re-negotiate the values in which their professional identity is grounded. Perhaps media technologist are in the most uncertain position in this respect. In their debates, the demanding presence of established industrial interests is strong indeed. But so is the presence of powerful
criteria for theoretical consistency, empirical credibility, and social relevance. And as I have shown in the introductory chapters, the groundbreaking innovations of Vannevar Bush, Ted Nelson, Douglas Engelbart and many others, stem as much from scientific creativity and forethought as from explicit demands expressed by established industrial agencies.

What I want to point out in the outline above is not only that different professional communities are engaged in different kinds of debates. There are other problems these debates all share, in varying degrees. Firstly, they often present their themes as brand new topics of attention. There are surprisingly few references to similar debates one, two, or ten years ago. Secondly, the promoters of each debate seem to regard their own framing of the topic as the most urgent one to deal with. There is a limited concern expressed for any combined effort of analysis and experimentation across professional boundaries. These observations, a limited historical concern and a lack of interdisciplinary commitment, may seem quite general. But anyone who have attended any combination of these discussions for more than five years can testify to their validity and to the impatience they cause among parts of the audiences.

The recognition that there is a need for cross-fertilisation across institutional and professional boundaries has recently spurred initiatives towards a more pronounced interdisciplinary awareness. However, the process of integrating conceptual frameworks of different media professions is an extremely slow process. And it is in order to identify the problems of such an integration I have taken the liberty to characterize the dominant modes of discussion in such a general way. Incidentally, the centre where I am writing this thesis represents one of the recent Swedish initiatives aimed at supporting systematic interdisciplinary studies of information technology. The centrality of the observations above is reflected in one of the centre’s goals, that it should try to relate the vocabularies of different professions to each other in transparent ways. Since I have followed the debates about image technologies since the middle of the 1970’s, I can also admit to a personal interest in trying to identify a framework in which different professional vocabularies could be mutually related to each other. Even if I have been very general in my outline of the established discursive frameworks, I think my observations about their common problems have been sufficiently clear. The problems I have identified - a limited historical concern and a lack of interdisciplinary commitment from many of the involved parties - stem from a lack of working contact between the media...
Interdisciplinary Prospects For Pattern-Informed Analysis

A marked division of labour within and between media institutions is reflected in a division of professional languages. As video-cassettes, videoconferencing, DVDs and other digital distribution formats become more and more integrated modes of expression in Computer Science, especially within the Human Computer Interaction (HCI) direction, the division of professional languages is one of the most obvious issues an alternative analytical framework has to address.

Interdisciplinary requirements

What basic requirements should be stipulated for a framework with which documentary image media could be analysed in ways that transcend professional and disciplinary borders? One basic obligation of the analyst, in my opinion, is that he or she tries to be as explicit as possible about the actual users of the artwork s/he is analysing. This notion of reception awareness immediately evokes associations to a range of other obligations called for in contemporary social research - that the analyst should clearly reveal in what scientific tradition he or she is performing the analysis, what basic values and judgements the analysis is grounded in, and what room for diverging interpretations this may cause in relation to other traditions that honour different sets of values. I will return to some of these established claims, in which an explicit declaration of the intended audience of the analysis is more or less implied. My point of foregrounding the analyst’s attentiveness to the audience of the artwork is that such an attentiveness may help to problematize and increase the awareness of the analyst’s own prospective audiences.

If it is accepted that an awareness about the real users of an artwork is an important obligation of the analyst, then, what concrete circumstances regarding actual user groups should the analysis account for? One of the pivotal points of departure of this thesis is the existence of such social entities as genres, identifiable bodies of artwork with common characteristics which to a large part determine user expectations and communicative experience. From this follows, in my view, that a key obligation of the analyst is to describe these genre characteristics in a systematic way. If Rick Altman’s proposition is considered fruitful - that the analyst should focus on the (pragmatically conditioned) interplay between semantic and syntactic characteristics - then a second obligation of the analyst can be derived. If there are semantic-syntactic symmetries - and pragmatic symmetries that re-chan-
nel them within dynamic, erratic genre boundaries - then the analyst should be explicit about these symmetries. This may not sound as a very original proposition. But, since we - from the point of view of Cinema studies (which embraces many divergent directions) - are considering the possibilities of interdisciplinary exchange, the relative lack of originality should be a more comforting than discouraging notion. Media analysts and practitioners often try to be explicit about the rules of their respective trades. The real originality of Altman’s proposition is his understanding of the role of competing/cooperating users/audiences, an understanding which can be revealed along the lines of pragmatic studies as performed in the linguistic discipline. His key insight is that there are institutional symmetries in the interplay within and between user/audiences groups that can help explain transformations of formal symmetries within and between genres. This insight uncovers the scene on which formal conventions are re-negotiated according to the canons, accepted techniques and business practices of clashing user communities.

In this sense, Altman’s stress on the multiplicity and overlap of users/audiences can be seen as an interesting new terrain for historians and critics interested in a fruitful exchange across disciplinary borders.

This far I have argued that the genre perspective provides systematic support for the interdisciplinary inclined analyst to account for user/audience involvement as well as the recurrent formal symmetries which result from that involvement. How can this be applied to the genre of history programming? To me, one of the revelatory aspects of the focus on recurrent formal symmetries is that it offers concrete questions about individual formal conventions which artists, critics, producers, and technologists all can answer from their own point of view. The notion of an interdisciplinary exchange as an activity in which general similarities and differences between disciplines are discussed on “a purely philosophical level” is thus replaced by a very different notion. Genre-specific discussions about specific formal conventions seem to have a much greater potential for real exchange than the general, abstract, discipline-centric approach. It is as if the concept of interdisciplinarity is transformed from an abstract issue to a wealth of concrete, exciting interpretative questions. In the case of history programming, border crossing seminars could be arranged around characteristic formal conventions that provide for the experience of historic authenticity. If these central conventions are narrowed down to those that provide documentary films with an indexical bond...
to the profilmic reality, then aesthetic, sociological, and technological aspects could start to draw on each other and result in substantial interdisciplinary insights.

Since the Altman perspective on genre offers a way to account for the interplay between formal and technological solutions, I think that this possibility can be stipulated as a third realistic requirement for an interdisciplinary framework. It is also a highly relevant requirement for an inquiry about the meeting between documentary conventions and digital techniques. In my outline of a diverging spectrum of professional debates I deliberately placed “the artistic” and “the technological” at opposite ends. This is, I believe, how most people see it. Human and social sciences afford aesthetic and institutional analysis with tools to account for creative, artistic practice. The natural and engineering sciences have less established ways to explain the role of artistic creativity in the process of innovation. However, if the spectrum is not seen as a line where artists and technologists are wide apart, but as a circle in which they are (also) immediately next to each other, then there might be more themes in common between artists and technologists than what a strict polarity would imply. (Such a depiction of simultaneous closeness/remoteness could be taken to mean e.g. that artists and technologists are quite close in terms of practical interaction while they, at the same time, are relatively far apart in respect to the professional languages they use to account for that interaction).

It is outside the scope of this study to discuss whether technical impact on artistic work should be viewed as an everyday occurrence or as something that influences the artist in rare and sudden leaps. Regardless of whether technical innovations are seen as something with mostly direct or mostly deferred impacts, (or both), the important requirement of an interdisciplinary framework is that technological aspects can be specified, along with other aspects, in a systematic way. Concrete technological preconditions for production-reception of specific artworks has to be accounted for in direct reference to the formal conventions of that artwork. If we again zoom in on those conventions that provide documentaries with indexicality, the framework should ideally provide a systematic way to examine how photographic indexicality can be combined with electronic tracing devices to offer an enhanced sense of authenticity.

At this point, the requirements I have discussed can be summarized in that the analytical framework should offer the analyst a way to systematically account for user/audience involvement, recurrent formal symmetries that result from that
involvement, and specifically, the interplay between formal and technological solutions that results from the involvement of artists and technicians. But there are at least two additional qualities that could be expected from an analytical framework aimed at resolving language barriers between practitioners of documentary media. Firstly, it should be applicable across media technological borders. This is to say that it should not be confined to any particular media apparatus, such as television, cinema exhibition, art house or community exhibitions. In my view, it should even be applicable to documentary methods used in still photography and shared 3D-environments. In other words, the framework should supply the analyst with tools to systematically describe a wide range of formal symmetries, in order to explain them in relation to their technical and social preconditions. Secondly, the framework should be applicable across substantial time periods. In one sense, this may seem to be a commonplace requirement, that the applicability of the framework should not be confined to a small set of documentaries produced roughly at the same time. The question is, how long a time period should be considered “substantial.” Even if I hesitate to think in terms of measurement, the notion of user orientation may again offer a clue. As I see it, the rough, and therefore sometimes extremely useful, term “generation” may be used as an interesting time horizon when trying to identify bodies of consistent artwork. If clearly identifiable sets of formal symmetries occur in documentary styles that transcend (multiple) generation borders, then these sets are obviously more promising candidates for genre analysis than sets of symmetries that does not sustain the shifting preferences of new generations.

These two qualities of an interdisciplinary framework for documentary studies, applicability across media technological borders and across time periods, are different from the earlier requirements I have formulated. While the requirements stipulate what kind of aspects should be accounted for in the analysis (user involvement, techno-formal symmetries), these qualities refer to the range of applicability of the framework. One basic argument for the importance of a wide range of temporal and technological applicability is that a wider scope of relevance would extend the chances for practitioners and scholars from different fields to take part in an interdisciplinary exchange. I have already declared that “documentaries on history” is the prime subject for which the analytical framework should be applicable. In effect, that places my own study within the broad realm of genre studies. By stating my interest in formal conventions that transcend media technologies and
time borders, I even more clearly talk in the accepted language of genre. But the concept of genre should not only be understood as a specification of the subject examined. What the analytical framework should help to identify and explain is possible sub-genres within the overall genre of historical programming. This is to say that the analytical framework should help to identify variants of historical discourse based on subsets of the formal conventions found in the genre as a whole. Since I have stated that the accounting of user involvement should be an important element in explaining the formation of genres, it follows that user involvement should also help explain the formation of sub-genres. In the following assessment of the interdisciplinary prospects of a pattern based framework I will discuss the chronicle and the biography as two such possible sub-genres.

Interdisciplinarity as overlap

In the beginning of this chapter, while discussing the necessity of understanding what audience a certain documentary was aimed at, I claimed that such an audience/user awareness could help the analyst to reflect upon the intended users of his own analysis. This could be formulated as a double requirement for user awareness. If characteristic formal conventions to a large part could be related to (the involvement) of a certain constellation of users at a certain point in time, then the formal conventions applied in the analysis has to be related to intended constellation of users of the analysis. The importance of this notion is that these latter constellations can vary substantially. If the analyst regards himself or herself as a documentarist, then s/he can perform the analysis “within the artistic discourse” outlined above. But the point of an interdisciplinary framework is that it should be accessible for a wide collection of audiences/users, all with their own demands on formal presentation. This means that an analyst focusing on the aesthetic characteristics of a certain body of history programmes should supply entry points for involvement from categories such as practicing artists, sociologists, producers, and technicians. What emerges as an essential quality of the framework is its complementarity to other analytical frameworks. This is to say that the framework should work as a complement to, rather than as a replacement for, the frameworks of neighbouring discourses. This means that there should be some sort of overlap, in both vocabularies and syntax, between the aesthetic analysis and those analysis focusing on economic, social, and technical preconditions.
The notion of complementarity of frameworks as an essential element which determines their interdisciplinary usefulness is quite an abstract notion. But I think that an awareness about supplying conceptual and syntactic entry points that provide a certain amount of overlap with neighbouring discourses is a viable way to grasp complementarity on a practical level. Even if it is too abstract to formulate as a requirement for interdisciplinary applicability, I think it is one of the most important qualities of a framework aimed at facilitating the understanding of how creative efforts on many different levels interact. What the notion of complementarity also calls to mind is the scalability of key formalisms of the framework. Ideally, these formalisms should be so simple, yet so rich in combinatory opportunities, that they could be presented in very condensed form without losing their explanatory power. There should be few thresholds and, to use the vocabulary of one of today’s “rapidly emerging markets”, e-learning, the learning curve should not be too steep. Another way to suggest what such a “predisposition for popularisation” would look like is to ask whether the framework provides a variable level of formal presentation. If the framework explicitly propose different levels of relaxation in its systematic application, then there is certainly more reason to talk about a formal scalability than if there are no suggestions about such a variable level of formalism in the presentation of the framework.

The notion of scalability may seem even more abstract than the notion of complementarity. What I am trying to articulate, admittedly in a quite formal way, is that it is not only the vocabularies and syntax that separate neighbouring discourses. The two hours long seminar, prepared through twenty hours of reading, may be the elementary formal scale of analysis for art historians and sociologists. But in most environments, the essential results from those seminars have to be condensed down to ten minute presentations, accompanied by hypnotic one-page abstracts, to reach professionals who focus on decisionmaking in their respective fields. To describe this kind of variable level of formalism in relation to an educational environment, two polarities may be identified. In order to pass the test of scholarly credibility, any interdisciplinary effort in the field of history programming has to complement the rich body of existing theoretical and critical work done on documentaries from the outset of this expressive form. At the same time, but at another extreme in respect to conciseness, these efforts should also help beginning students to grasp concrete media designs in ways that are tangible enough to allow
them to experiment with practical and formal solutions in systematic ways. In this respect, the scalability of the explanatory framework seems to be an important quality for making students motivated to dive deeper into complex research issues.

In the following section I will examine to what extent the proposed pattern based framework qualifies as an interdisciplinary approach in respect to the requirements discussed. Thus, I will focus on to what extent the pattern framework provides a systematic way to account for user/audience involvement, recurrent formal symmetries resulting from that involvement, specifically, the interplay between formal and technical solutions resulting from the involvement of artists and technicians. The applicability across media technological borders and time periods will also be discussed. This will result in some concluding notes on the complementarity of the proposed framework.

**Interdisciplinary applicability**

In the Examples part, I demonstrated how design patterns could be identified in a collection of documentaries within the broad genre of history programming. The format for that identification was what has been described as “patlets”, i.e. a minimalist format in which only a proposed name and a few sentences depicting the essence of the pattern is given. The rationale for choosing such a minimalist format is manifold. A time period of more than six decades was to be covered. There was a considerable variation of media technologies used in the documentaries - 35-mm film, Camcorder, CD-ROM, interactive web applications, and shared 3D-environments. The fact that, to my knowledge, design patterns have not been tested before in documentary studies is a further cause for the minimalist approach.

But there is an additional motivation for favouring a wide scope with many candidate patterns rather than a series of close-ups of fewer but more elaborate patterns. In my view, the explanatory power of design patterns lies as much outside and in-between the patterns themselves, as within any particular set of canonized definitions. For most audiences, I believe, describing a set of characteristic patterns and their interplay gives a much better impression of what a certain documentary is about than trying to find the crucial pattern and give it the complete definition. For all those reasons, I have more or less instinctively chosen to use the patlet format in my preliminary application of the method. It may give a heterogeneous
picture of what design patterns can cover, but since my stated intention is to propose an interdisciplinary framework, that heterogeneity may be taken as a sign of its border-crossing reach.

In the rest of this chapter I will discuss to what extent the preliminary identification of patterns in the Examples part is consistent with the requirements for an interdisciplinary applicability formulated above. To be able to do that, a more elaborate form of pattern presentation has to be used. The form I have chosen is the one proposed by Jenifer Tidwell at the M.I.T. MediaLab in her influential compilation of design patterns for HCI-studies, COMMON GROUND, A PATTERN LANGUAGE FOR HUMAN-COMPUTER INTERFACE DESIGN. This longer and more structured form will allow me to relate one of the patterns I have identified to other, more mature patterns presented in that form. It will also let me relate some of the other patterns I have found to each other in order to discuss the formation of pattern languages as a way to identify sub-genres of the broad domain of historical programming.

Accounting for audience involvement
To what extent can the pattern framework help the analyst to reveal how audiences involve themselves in a documentary film? In A PATTERN LANGUAGE, Christopher Alexander and his colleagues describe the users of built environments in a variety of ways. The overall image that emerges from the book is that children, teenagers, families, neighbours, professionals, and the elderly, along with architects in many different guises, all take active parts in the slow and infinitely complex process of building their common environment. Each pattern describe how different centralistic forces in society tend to reduce complexity (problem, context, forces) and how piecemeal action can be taken by the community groups concerned in order to sustain and develop the richness and diversity of social interaction (counteracting forces, recommendation, supportive patterns). In much the same way sociologists and computer scientist use the pattern formalism to identify recurrent problems in their respective settings, in order to find practical solutions that complement each other on many levels. Thus, in the case of urban renewal cited by Thomas Erickson, the ethnographer Randolph T. Hester started off by interviewing the community members of Manteo about their common problems. And in Erickson's own example from the field of organisational design, the overarching problem addressed concerned the possibility for consultants to keep in touch with their colleagues in an environment that often forced them to work in isolation.
Generally speaking, I think it is correct to say that the pattern formalism foregrounds the expressed needs of user groups by making them the starting point for problem definition. (This is very clear in the original architectural application of the approach, although programmers mostly see their own colleagues as end-users, and HCI designers have to include both programmers, systems administrators, and enterprise managers in their definition of “users”.) What the formalism also does is to provide a way to account for the diversity of community groups and, thereby, the diversity of conflicting needs in all parts of society. In that respect, the application of the pattern approach to the field of documentary filmmaking may help the analyst to articulate different sets of problems that belong to the filmmaker(s), the audience(s), and the protagonist(s) of the film. On the other hand, it can also be said that no methodological guidelines are given about how the pertinent problems of the users are to be interpreted. (Except for one practical rule, which I will return to, that the interpretation should be performed in close cooperation with the users concerned. This means that the users of the architectural, organisational or informational design is also a key user group of the analysis of that design. In that sense, the users of the artwork are the preferred users of the pattern analysis.)

It can be argued that the pattern method is quite weak in respect to offering advice about how to interpret the conflicting needs of different strata of society. A historian may criticise A PATTERN LANGUAGE for not providing any explanations for when and how the centralism, which is the “common enemy” of the account, has evolved. Even if there is a wealth of historical facts, figures, and comments in the book, they don’t form a tightly knit explanation as to why the different expressions of centralism has to be dealt with in the manner proposed by the authors. Readers who look for a readymade, comprehensive, politically informed, techno-economic history in the texts of the design pattern tradition will probably be disappointed. In each application of the framework, it is the practical design questions that take centre stage. The often very explicit references to power structures remain embedded within the mesh of dynamically interlocked patterns. But this weakness, that the form according to which the accounting of conflicting forces should be performed is left to the author to choose, may also be seen as one of the great strengths of the approach. The formalism is open for hints and indirect references as well as for systematic accounts of “the real owners” of each pattern. It is up to each reader/author to trace the origins of the individual pattern in terms of what it depicts.
who is interacting with whom - and who is doing the depicting - and in what historical context the pattern has acquired wider groups of adopters/users.

In the Examples part, I have tried to give a general glimpse of the audiences addressed by each documentary presented. I have discussed the reception aspect in a bit more detail in two of my examples, the Jennings films and the CyberYard-environment. In the following section I will demonstrate how the pattern formalism can account for audience involvement in the early documentary movement represented by Humphrey Jennings. In Appendix 1. “An overview of candidate patterns”, I make a similar demonstration of how a more elaborate pattern description can account for audience involvement in shared 3D environments.

The audience/users in the case of my presentation of Humphrey Jennings was film historians and critics who have revisited this era of filmmaking many times. To zoom in on this particular audience was both practical and important. In the perspective of testing the framework against both of the extremes of Cinema studies arbiters, scholars and students, these films provided a good ground for testing whether the framework indeed could “complement the rich body of existing theoretical and critical work” already done.5 It seemed important to first calibrate the conceptual framework against the canonized interpretations. My reasoning was that after such a test, it could hopefully be developed for students and for other relevant groups of users within Cinema studies, specifically for colleagues performing reception studies of the periods and films exemplified.

Accounting for audience negotiation of technical and formal conventions
In my rereading of the historians appraisals of the Jennings films I concluded that the socio-spatial patterns identified in the book A PATTERN LANGUAGE resonate quite well with the way the scholars had depicted semantic and syntactic symmetries in the films. A few of the historians explicitly used the word pattern in ways close to the Alexandrian use of the word, in which concepts of interrelations, linkages, fluidity, and overlap are key characteristics.6 Most of the analytical texts also foregrounded the social use of documentary in much the same way the pattern methodology foregrounds the social use of architecture. But when analysing documentaries made 60 years ago, the question arises how the identification of patterns may help us understand the new kind of audience involvement that the films made possible at the time of their screening. In order to detail this key aspect, the preliminary identification of interlinked patlets has to be elaborated into a set of
more detailed pattern definitions. In this context, one particular pattern stands out as representative for the innovative style of Humphrey Jennings. It was originally identified by Bill Nichols who recognized a sophisticated symmetry in Listen to Britain which he termed "reverse angle, point-of-view-shot":

Listen to Britain presents situations and events in the spirit of evocation and remembrance: recognize this, remember that. In many instances the evocation is objective in the sense that the camera's gaze attaches to no specific human agency. (...) But at other moments, we are invited to adopt the subjective perspective of specific social actors. This is most often true in the concert scenes when singers, pianists, and orchestras perform for representatives of a hard-working, culturally appreciative nation. Repeatedly the camera singles out members of the audience and then, using eye-line match editing, constructs a reverse-angle, point-of-view shot of the performance. Sometimes the pattern is the classic A/B/A where we return to the audience member to note his or her facial response to the music.7

Nichols goes on to note that such multiple point-of-view shot constructions are not uncommon in fiction films but that they “are not the lifeblood of narrative subjectivity, only a secondary variation”. What he is identifying as the essential trait of this kind of constructs is that they become “...the foundation for a social subjectivity. This is subjectivity dissociated from any single individuated character. Our identification is with the audience as a collectivity, anchored by subjective shots that align us with specific audience members but without any prelude or follow-up that gives these particular members meaning or significance beyond their representative quality and position as emotional relays within the film.”8 The context in which Nichols makes these reflections is exactly a discussion about different modes of “audience involvement”. The chapter has the title Epistephilia and he begins it with references to the particular subjectivity of “informed citizenship” which John Grierson exhorted documentary to support, “an active, well-informed engagement with pressing issues such that progressive, responsible change could be accomplished by governments.”9 Nichols also exemplifies other modes of engagement that documentary is often associated with - “from curiosity and fascination to pity and charity, from poetic appreciation to anger or rage, form scientific scrutiny to inflamed hysteria.”10 But Nichols preoccupation in this chapter is to highlight not only the closeness of audience co-presence, “the social subjectivity” provided by
the reverse-angle, point-of-view shots and other similar constructs. His interest is also in identifying limits to that kind of subjectivity:

We share the spatial position of audience members at the wartime concerts. They become a mirror for our own act of viewing and listening to Britain. (…) This relationship of subjective engagement retains, as a basic prerequisite, distance. (…) What documentary may produce (like fiction) is less a disposition to engage directly with the world than to engage with more documentary (or fiction). The aesthetic of epistephilia, like that of scopophilia, nourishes itself, not its own alternative or replacement.11

To me, Nichols’ presentation of Jennings innovative formal pattern as a device that may spur epistephilia, a preference for the document over the unmediated event, seems to be a bit out of historical context. Jennings implemented this pattern in an era that has been characterized as one of the formative periods of documentary film. But the notion of epistephilia brings a very different media context into mind, a context in which documentary modes of representation are the rule of the day rather than the novel exception. There are other frameworks than those of media pathologies which may be more helpful if we want to get a glimpse of the conventions against which this pattern was devised. Noël Burch has coined the term Institutional Mode of Reception in order to capture the general pattern of audience involvement which has dominated cinema experiences for at least half of the first century of its existence.

I see the 1895-1929 period as one of the constitution of an Institutional Mode of Representation (hereinafter IMR) which, for fifty years, has been explicitly taught in film schools as the Language of Cinema, and which, whoever we are, we all internalise at an early age as a reading competence thanks to an exposure to films (in cinema or television) which is universal among the young in industrialised societies.

What then constitutes the Institutional Mode of Representation? Well, as we are entering the territory of Early-cinema studies here, in which the preferred mode of representation is the essay, we don’t get an orderly summary in terms of its characteristic traits. What Burch delivers however, in his book *Life to Those Shadows*, is a concise characterization of the period preceding IMR, the PMR (Primitive Mode of Representation):
The factors contributing to the visual “flatness” of so many film tableaux before 1906 - and in certain places until 1915 - are five, I think:

1. a more or less vertical illumination suffusing the whole field in front of the lens with a completely even light;
2. the fixity of the camera;
3. its horizontal and frontal placement;
4. the very widespread use of painted backdrops;
5. lastly, the placing of the actors, always a long way from the camera, often spread out in a tableau vivant, all facing front, and without axial movement of any kind.12

This is a dense and revealing characterization of the sensation of flatness most spectators experience when viewing early films. With some formal rearrangements it may very well provide the basis for a pattern language for early films. If so, it would comprise the identification of a set of four recurrent socio-spatial symmetries: Vertical illumination, Fixed frontal camera, Painted backdrop, Distant frontally facing actors.13 To my mind, this set of patterns evokes at least three important reflections which I will have to present briefly, since my aim here is to elaborate Public point of view as a pattern, not what made it come about. Firstly, our experience of flatness would be impossible without the cinematic training which, as Burch remarks, “is universal among the young in industrialised societies”. For us, each pattern evokes its historical reversal. Instantly, we sense the flatness as a lack of depth. Secondly, the notion of a pattern language for a social phenomenon which has evolved historically into something quite different suggests that patterns and pattern languages indeed have histories of their own. This is, as I have just remarked, a perspective which is present in most texts on design pattern, even if, most of the time, it is embedded in a surprisingly illusive way of writing. Thirdly, isn’t there something strangely contemporary about the pattern set: Vertical illumination, Fixed frontal camera, Painted backdrop, Distant frontally facing actors. Isn’t that quite a fitting description of what we face, on the whole, after having pressed the “On” button of our computers?

Leaving the question of historical correspondences aside, I think Noël Burch’s identification of historically conditioned patterns of audience involvement provides a pertinent backdrop for trying to understand against what the pattern Public point of view was devised.14 As a concession to argumentative continuity, I will also leave the identification of the patterns of IMR to the reader. (You may experi-
ence them as reversals of the PMR patterns, or consult Bordwell and his colleagues on what they identified as the basic devices of the Classical Hollywood Cinema, summarized in the section “Genre as manifestation of narrational and rhetorical patterns” in Part 1.) To conclude the search for contrasting material I will refer again to Bill Nichols and his characterisation of the early Expository documentary as a mode of representation devised to reverse the escapism inherent in the Hollywood way of making movies. Thus, to grasp the novelty of the Public point of view pattern we could put ourselves in the seats of the movie theatres of the late 1930’s and let ourselves become absorbed by the hero-centric camera and editing techniques of that time, techniques that had opened up the depth of cinematic space but, until now, had left us all sitting as isolated individuals, seldom sharing any sense of a common, social subjectivity. It is in this context I have tried to elaborate the Public point-of-view pattern, according to the format proposed by Jenifer Tidwell.

Public point-of-view

Examples: The sequence of reverse angle, point-of-view shots in the concert scene of Listen to Britain (Jennings, 1941); Series of photographic accounts in Picture Magazines and photojournalistic exhibitions that parallel each other by depicting spectators of public events as a collective.

Context: The emergence of cooperative methods for camera recording and image presentation in the Picture Magazines and documentary films of the 1930’s and 1940’s.

Problem: A strongly editorialised photojournalism in newspapers and a general escapist style in foreign and domestic cinema left out, or glossed over, urgent social issues dealt with in contemporary literature and art. Photographers felt imprisoned in strict prescriptions for image composition and montage that resulted in a hero-centred subjectivity.

Forces: Experiments in literature and art with new subject matter and new compositional devices that transcended the individualistic notion of subjectivity.

Figure 16a. Camera angles in a point-of-view sequence
had been met with approval by influential audience groups. Photographers and filmmakers working outside the studio systems embark on experiments that bring in new subject matter and translate patterns of composition from art and literature into photographic and cinematic equivalents. To reach new audiences, by providing new ways of audience involvement and identification, is one of the explicit aims of the filmmakers. Technicians and assistants of many kinds facilitate compositional experiments by making cameras more mobile. Governmental agencies provide the financial and administrative infrastructure by creating production units open for experiments with new formats suitable for public relation issues. Editorial staff of magazines and film production units, cinema audiences, magazine readers, sponsors of magazines and film producers, critics— all these diverse user groups express a basic sympathy for what they find to be a more authentic style than what they have become accustomed to.

Solution: Photographers start to move outside the paths prescribed by traditional rhetorical norms to record more spontaneous accounts of events of public interest. The traditional A/B/A pattern of point-of-view shots is extended by aligning series of such shot-sequences to establish the sense of a co-presence with the audience/readers of the finished artwork.

Resulting context: Public point-of-view is one of many compositional devices that facilitated the making of films addressing social issues for an audience invited to involve themselves as a collective of citizens. Together with cinematic devices such as Associative montage, Sound overlap, and Musico-spatial editing it helped articulate a cinematic style which broke with the ruling escapist cinematic styles of the 1930’s.

Figure 16b. Camera angles in a Public point-of-view sequence
Notes: This is a pattern of composition in documentary film originally identified by Bill Nichols (Nichols, 1991, page 179). The definition is written in a way that foregrounds the historical context and emphasises the oppositional character of the social forces that trigger its creation. The context of the definition is the doctoral thesis of the author in which the pattern language approach is presented as a means for closer exchange between the many diverse disciplines that use and study documentary film.

Some formal comments on this description has to be made before I continue to answer the question about interdisciplinary applicability. Even if the level of detail of the description is much greater than in some of the preliminary identification of patterns in the Examples part, it is lower than what can be expected from a definition in which experts from many different fields have contributed. Thus, the description clearly bears the mark of being a proposition to which a series of alternative developments can be suggested. Some of the contextual forces can be abstracted and moved to higher level patterns which describe a particular body of documentaries produced at the time. More examples, drawn from the expertise of still photographers, filmmakers and historians, would yield a greater level of detail in the analysis of camera movement and editing principles. For example, more historical material could be supplemented to specify how the pattern was used in contemporary still photography. (One lead here is provided by the surrealist-sociological experiment Mass Observations in which citizens were invited to photograph everyday events to create a cooperative account of their common social environment. An experiment Jennings took a very active part in.) Under the heading Resulting context, similar analysis could be made in reference to how the pattern has been used in later historical contexts and in other media environments. In respect to modes of audience involvement, more revealing details could be supplemented through studies along the lines proposed by Brian Winston in his critical account of audiences engagement in the documentaries of the time.

What I am trying to show in this section is that the pattern formalism allows for a detailed account of user/audience involvement in direct relation to specific techno-formal conventions. In the case of Public point-of-view, a subtle development in compositional devices can be attribute to the interplay of user expectations, specifically the expectations of artists and technicians. As I remarked about the architectural and ethnographic use of design pattern, the primary intended
users are those who are supposed to come up with the problem definitions. In that sense it is a format for peer-to-peer communication. Architects and ethnographers are the acting subjects in those applications, as filmmakers and their assisting professionals, specifically “technicians”, are the acting subjects in the description above. But as the main point of the formalism is to make visible the interaction between diverse groups of people in the social world, it has to be made clear that the subjects involved in creative negotiations never act in isolation. The filmmakers are themselves part of the audience as (leading) interpreters of audience expectations. In that sense the pattern formalism could be characterized as a format for user-oriented exchange between domain experts of different kinds.17

The extended format for describing the Public Point-of-view pattern allows a brief comparison of that pattern with other, more mature pattern written in that format. In Appendix 1, I have quoted the key parts of one of Jenifer Tidwell’s patterns for Human-computer interface design, Navigable spaces. This is a high level pattern that captures how the content of a computer environment unfolds before the user. Among its neighbouring patterns on that level are Overview beside detail, Small groups of related things, and Optional detail on demand. The key recommendation of Navigable spaces is to “create the illusion that the working surfaces are spaces, or places the user can ‘go’ into and out of.” Hence, we are dealing with a corresponding effort to the one addressed by Public point-of-view, namely to extend a media environment characterized by a certain “flatness” into something more lively and rewarding. But while Public point-of-view crossed the borders of the Institutional Mode of Representation in films of the thirties, Navigable spaces is one of the patterns that today help transform the computer environment into a platform for genuine media experiences. To me, Navigable spaces is one of the essential design patterns that extend today’s computer experiences from its traditional reliance on flatness, so typical for the Primitive Mode of Representation in early silent movies, to a more and more cinematic encounter.

In Jenifer Tidwell’s presentation, Navigable spaces is supported by a series of lower level patterns such as Map of navigable spaces, Go back one step, Go back to a safe place, Interaction history, and Tiled working surfaces. These patterns have evolved to solve specific lower level problems. When combined, they help reinforce the sense of a rich environment which can be explored in rewarding ways. A series of corresponding patterns of support in the case of Public point-of-view could be identified as Point-of-view sequencing, Shot-reverse-shot, and
Musico-spatial editing. It is interesting to note that the pattern Navigable spaces could be found in all of my own examples in Part 2, except for the two first ones in which the supportive technologies are those of 35-mm film and the television broadcast.

The reason Navigable spaces is not mentioned in the film examples to which it applies is that I choose to adhere to a Cinema studies perspective when trying out my first practical application of the pattern concept. That way, the usefulness of the approach to my native field could be examined in a more concise manner. Now, the application of the more detailed formalism for describing patterns immediately opens up a rich pool of corresponding patterns from a neighbouring media environment. And, as we have seen, these patterns highlight new layers of embedded cinematic symmetries in my examples, symmetries which in turn may be analysed in successively more detailed pattern analysis. To me, this generative quality of the method, that it invites successive mirroring of symmetries, is an important confirmation of the interdisciplinary applicability of the approach. The formalism provides clear entry points through which design problems from neighbouring domains can be compared in terms of context, forces, and solution. Such comparisons allow for an attentive understanding of conflicting user expectation, even if, as I have noted, the formalism is very flexible as to how these conflicting expectations are accounted for.

An even stronger verification of interdisciplinary applicability would be obtained if it could be shown that a cinematic pattern such as Public point-of-view may have revealing, and currently unnoticed, applications in digital media. Here, a short digression to that effect may be in place. If the HCI pattern Navigable spaces corresponds to the cinematic depth creating devices of IMR, then a key quality of the Public point-of-view pattern when applied to HCI, would extend that depth and free it from a narrow individualistic subjectivity. There is no design pattern in the Tidwell collection that applies to such experiences of an extended social subjectivity in cyberspace. But this does not mean that those experiences are not promoted in digital environments. In my last examples in Part 2 which deals with the shared 3D meeting place CYBERYARD one of the key goals was indeed to try to create the sense of a social subjectivity. And there are many structural qualities of shared 3D environments that may support a sense of communion. The fact that you see the people you encounter, and that they see you, represents one of these qualities. The fact that you can chat with them demonstrates another one. But there is a
third mechanism which has a structural affinity with the point-of-view device, the mechanism “Join”.

At any moment, e.g. when you hear a friend making the remark that s/he has seen something interesting, you can join that friend by clicking his or her name in the “Contacts” tag and choosing “Join”. That way you are immediately moved to your friends position to share his or her view. This mechanism mimics the essence of the basic symmetry of the cinematic point-of-view device even if it does not mimic the actual repetition of it from reverse angles as described in the Public point-of-view pattern (PPOW). However, this could easily be accomplished through a script (which could be called e.g. “Join gathering”) which positions you, first on the periphery of a named gathering (created by a corresponding mechanisms, e.g. “Invite gathering”, which creates a name and a host position for the gathering) looking in towards the members of the gathering at an angle to their line of vision less than 90 degrees, secondly in a position where you get a close-up of a randomly chosen member, thirdly in a position identical to his or her viewpoint etc. Such a script would implement the PPOW pattern in cyberspace. Making the script accessible to the user (e.g. “Set PPOW attributes”) in terms of number of member viewpoints to share, duration of shared views, and other attributes would represent a further extension of its public character.

To summarize the examination of interdisciplinary applicability so far, I have showed that the pattern formalism allows a systematic account of the evolution of formal and technological symmetries in a way that makes them comprehensible in relation to audience involvement. As many scholars before me, I foregrounded audience expectations and the oppositional character of new evolving symmetries as two of the driving forces in respect to audience involvement. What the pattern formalism contributes is that it prompts the analyst to take all the five aspects of context, problem, forces, solution, and resulting context into account when examining each and all of the relevant design elements. Such a comprehensible formalism facilitate an analytical exchange across disciplinary borders, between for example Cinema studies and HCI studies. But the notion of a formalism that facilitates analytical exchange in turn evokes other questions about what the preconditions are for a successful exchange.

Some obstacles to a sustainable exchange become evident when we widen the scope from questions about camera movement and scripting to more complex issues of pattern languages and composite patterns that characterize entities like
genres and sub-genres. Here some sort of correspondence between how different disciplines deal with pattern interplay and composite patterns has to be at hand. Which brings me to the notion of complementarity between conceptual frameworks. One of the most important pedagogical aspects of the pattern framework may be that its formal outline conforms so well with the formal characteristics of many neighbouring frameworks. Christopher Alexander and colleagues draw on a whole range of disciplines, such as anthropology, psychology, and sociology when writing their seminal book on architecture. The issues they raised overlapped the themes of those neighbouring disciplines. What they contributed was an overarching mechanism, an editing tool, that related the issues to each other in a more direct way than what had been done before them. This formalism have now made it possible for computer scientists and organisational consultants to draw, both on those disciplines and on other fields closer to the natural sciences. Perhaps the most innovative aspect of the formalism is not about replacing or enhancing neighbouring frameworks at all, but to complement them and supply them with a linking mechanism that works like a glue for cross-disciplinary, conceptual calibration.19

The issue of complementary frameworks
The remainder of this examination of interdisciplinary prospects will focus on a discussion about whether the candidate patterns identified in the Examples part can be related to each other in order to form composite patterns and pattern languages. This will prompt me to compare my set of (candidate) patterns to the set compiled by Jenifer Tidwell, the most comprehensive compilation from a neighbouring field that I have found to date. Since Jenifer Tidwell is quite helpful about the formation of pattern languages, the comparison will crystallize into a proposition about possible uses of my preliminary set of patterns. On the surface, this proposition deals with pattern sets as elements for identification of sub-genres within the broad and openly defined term “documentaries on history”. But since it represents an interdisciplinary experiment - categorizing film with the aid of a (computer) architectural framework - it immediately evokes questions about framework complementarities. And as far as I can see, there are still some important limits to the applicability of the pattern approach to film studies. Even if the framework is helpful in aligning the intriguing findings of Rick Altman and Thomas Erickson, and thus extending the applicability of their joint perspectives, the pattern approach offers less help as far as anchoring the analysis in an explicit user-oriented perspec-
tive. This lack may explain the ambivalence of the framework in relation to notions of historical situatedness. The pattern formalism’s openness to different interpretations of user interest, and the reluctance of many of its practitioners to take temporal patterns into account, may make the formalism look more abstract to unfamiliar readers than what it actually is.

I have already noted that much of the fascination I experienced when getting to know the design pattern approach had to do with something that seemed to take place between patterns. Designs that work have a finite set of elements that are “good enough” and that together give the reader a sense of satisfaction that is difficult to explain. The pattern approach focuses on such basic sets which have proven their usefulness across generations. In that respect it may seem closed and rigid. In an analysis that is useful, that is “good enough”, all the elements are at hand and their interlinkages are defined within each pattern as well as cumulatively in the successively more inclusive patterns of the analysis. But as soon as one appreciates that even the lower level patterns are often quite hard to implement, that they could be viewed as small social works of art, then the emphasis on the essential elements becomes motivated. When these basic social symmetries start to make themselves seen in new constellations, through deeper analysis and episodes of recollection, then the seemingly infinite richness of the approach is making itself felt. The power of a well described pattern does not seem to rest within that which it describes. It seems to rest as much in the realms above and below its own domain. It seems to rest within that to which the analysis can be used, together with other people who also recognize its scope.

To me, the clearest physical manifestation of the versatility of the pattern approach is that each pattern description is obliged to have explicit references to the patterns it supports and to the ones it is supported by. It is with a strong feeling of uncertainty that I now turn to the difficult task of inspecting what my candidate patterns from the Example part has to offer in that respect. The holistic character of the approach, which could be captured in the advice “first catch the essential (solved) problems with a series of candidate patterns”, induced me to identify and compile a broad spectrum of patterns relevant to the digital branches of the documentary project. Now, the methodology asks of me to account for the interrelation between those candidate patterns. If I am correct about the power of patterns, that it rests in a social usefulness that leaves it to the reader to determine its situated quality, then this should not be a problem. Most people who practice the method
have a very generous attitude and I could count on a general interest for some hints about camera angles and principles of montage. But as I am writing a doctoral thesis in which I am presumed to take the greatest possible caution against oversimplification, I have to respect the evident problems of interrelating the symmetries I have pointed out. Since I am discussing the applicability of a relatively new conceptual framework to a range of established disciplines, it is the rules of those disciplines I will have to adhere to. My way out of this dilemma is to refer to the context of my examination, in terms of time patterns.

In A PATTERN LANGUAGE, the authors conclude that most of the socio-architectural symmetries they identify takes many generations to develop. Here, pattern descriptions are of very limited help. It is up not only to us, but to our children and grand-children to make them happen. The same thing, I think, could be said about compositional symmetries in our written and filmed reality. It is not up to the individual author by himself to describe compositional patterns with any aspiration to be comprehensive in the strict sense of the word. Compositional symmetries that evolve and last through generations have many authors. And it is not the ones that make them explicit and public, “the critics”, that are the first to grasp their essence. Since I am in the uncomfortable, although adventurous, position to have no other pattern experts from the field to share my findings with I have to keep my aspirations at a minimum.

A recap of candidate patterns - conventions that interplay on multiple levels
In my compilation of patterns from the domain of documentary film I have identified some forty candidates that each represent compositional innovations in a genre that consistently has tried to enhance the sense of authenticity of historical accounts. Each example documentary has generated between three to ten candidate patterns in my examination. The most obvious task would be to look closer into how patterns from each example interact. And I will do that in a brief way. But the approach as a whole suggests that it is only the symmetries that sustain across time periods and media environments that are “real”, sustainable patterns. This in turn suggests another kind of grouping, that of sub-genres. And this is the kind of grouping I will discuss more thoroughly. Because this is where the approach becomes even more problematic in respect to its openness to different modes of historical user attribution.
To remind the reader about the candidate patterns, I will make a very brief account of some of the interacting patterns in each of the example films. I started off by identifying eleven compositional symmetries in the films of Humphrey Jennings which together formed or extended the contemporary expectations of what documentary films could be about. In order of appearance they were: Poetic imagery, Public narrator, Public music, Workplace music, Public point-of-view, Associative montage, Sound overlap, Musico-spatial editing, Recording reconstructed events, and Intertextual reference. Any thorough analysis of each one of these patterns would have to specify its relation to the others and to still other symmetries not accounted for here. In the case of Public point-of-view, I referred specifically to the point-of-view construct as a supportive symmetry and to Associative montage, Sound overlap, and Musico-spatial editing as other patterns that facilitated the experience of an extended social space and a social subjectivity. (The reason I do not mention the kindred candidates Public narrator, Public music, and Workplace music among those assisting stylistic devices is that these devices are not yet accepted as recognized symmetries in the same way as the four I mention.) Further interactions between patterns that should be interesting to examine in greater detail are those between Poetic Imagery and Associative montage. First of all, it can be said that the essence of the poetry in many of the images concerned can be termed “associative” and that the Associative montage thus builds on and extends a preoccupation with that which transcends causality and the mere sequencing of events. A further analysis could concentrate on to what extent these two groups of patterns work in tandem to produce the unique style of some of the films. A hypothesis to that effect could be that the patterns aiding a social subjectivity constrained, and thereby renewed, poetic connotations hitherto associated with the more individualistic subjectivity, the subjectivity to which the analysed films were a response.

A similar short reflection on the candidate patterns of the televised documentary Erik - A Selfwilled Life brings us to another time period and to a very different set of audience expectations. Here, the patterns Cameraman acting on camera and Cameraman talking to the camera are proof of the revolutionary technical development that has taken place between the 1940’s and the 1990’s. These patterns were slowly developed by the experimenters of Cinema Verité and Direct Cinema, two styles that represent very different views of the role of the documen-
Part 3: Discussion

tary filmmaker and who’s stylistic devices I have tried to summarize in Appendix 2, “Non-fiction films on the Web”. By the 1990’s, the diffusion of low-cost, high-quality digital video equipment had reached a level that warrants the use of a phrase like “a socialization of the means of production”. Thus, some of the crucial innovations had taken place on the institutional level, restructuring the overall media apparatus. This is why I include this kind of supportive patterns: Documentarist-as-facilitator, Director as catalyst, Media team as coordinator, Community as distributor. These are institutional patterns without which films like Erik would be unthinkable.20

The interesting thing is that it is a public-service television company that premiers this style for the Swedish audiences. This reminds us that one of the crucial institutional patterns of the British documentary film movement was what could be called a Public film service, a proactive engagement of governmental agencies in film production that mirrored its engagements in the public spheres of education and health. In that respect, the British film movement paved the way for the European model of non-commercial television. A model that has sustained and prospered (in most quality terms) for half a century and which will probably continue to play an important cultural role against competitors with more narrowly defined overall goals. This is evidenced in quite a remarkable way by the Canadian example, in which a National Film Board, headed by the same John Grierson who inspired the British filmmakers, provided a platform, not only for pioneering fiction and non-fiction filmmaking, but also for building up an unrivalled computer graphics industry.21 By reversing the perspective, the compositional patterns of the modern example can be looked at from the point-of-view of the 30’s and 40’s. If the symmetries of that early period are patterns in the full sense of the word, then they would sustain the shifting times. But here we cross one of the borders I will get back to shortly, that of sub-genres. Not all sustainable patterns are at hand in all kinds of films. Their social and technological feasibility is not enough to make them the preferred means of expression.

What can be said about the diary of Erik, who could have been the son of the child called Timothy in the Jennings film, is that it represents an extended social subjectivity in yet a new way. The film does not have a voice-of-god narrator, but the talkative Erik presents himself as the average chap living in the average small town of Sweden. And he constantly takes up issues of public affairs and the role of the citizen, thus giving new twists to the patterns Public narrator and Public point-of-
Even the old pattern of recording reconstructed events makes itself seen, but in a radically new context. The documentarists of the 30’s could not afford to be purists about reconstructing events. Neither the technology nor the institutional setting allowed them to be that. However, in the 90’s, in a cinematic diary of a director, who is a very different kind of director from the pioneers of the 30’s, the connotations of reconstruction shift significantly. What he chooses to do one day with his camera becomes part and parcel of his history. The “reconstructedness” of the finished film can hardly be understood without pondering the collective decisionmaking supported by the institutional patterns which underlie the production as a whole.

The connotations of a social subjectivity become further extended in the CD-ROM and web based examples. Public service television meant a vast mobilisation of collective spectatorship in relation to the publicly sponsored films of the 30’s. DVDs and the web represent new distribution techniques that have the potential to mobilise communities in a very different fashion. These new techniques emerge in an overall media context, at least in the western world, marked by strong forces of privatisation and of a foregrounding of narrowly expressed individualistic points of view. All the same, the potential for new and unexpected community experiences are there. The millions of viewers of John Else’s urgent portrait of Robert Oppenheimer can, within their own closer communities, continue the exploration of that decisive period in history. Not just in the CD-ROM version of the film, but in similar historical accounts that can fill in many of the blanks and provide virtually endless sessions of reconsideration. It is in this integrative function the social potential of many of the digitally supported patterns can be found. These kinds of documentaries represent unmatched materials for educational and community uses through patterns like Integrative use of expressive forms, that helps bridge the gulf between written and filmed historical accounts; Explicit intertwining of chains of events, which at the same time manages to make the exploration easier and more far reaching; and Explicit declaration of interpretative problem, that aids the reinterpretation of supplementary materials.

The patterns just mentioned reside on the compositional level. But they are supported by navigational design patterns such as Cast of characters and Glossary, implemented in devices which waits patiently for the user until s/he chooses to be guided through the meshes of meaning-making references. Split screen for navigational aid, Themes as links, Persons as links, and Material-time link-layout are
other similar patterns from the M.I.T. MediaLab examples. These patterns are less static and allows a closer integration of navigational support into the telling of the story. Exploration-time link-layout represented an even bolder step in this direction. In terms of social subjectivity – a parallel unfolding of multiple perspectives anchored in a collective of citizens – this pattern may at first sight be regarded as a step backwards. As the account cumulatively adjusts itself to the interests of the individual viewer, it runs the risk of becoming a more and more private experience. But what constitutes a social subjectivity, if not individual experiences heightened by an awareness of the (un)common individual experiences of neighbours? If the mechanisms for viewer responsiveness were closed and hidden, an evolving documentary could end up as a maze of unintelligible links that trivialize all materials by putting them on an equal level of relative (un)interest. It is in this perspective the basic institutional patterns of the MediaLab become crucial for the understanding of this new breed of documentaries. Evolving documentaries are not about making the viewing more private but about making more intimate viewer/creator experiences accessible for a wider social sharing. All the underlying institutional patterns point in that direction – Provide for transparency, Work bottom up, Make resources available for use after agreement, Distribute process and annotation.

Similar arguments can be made about the navigational patterns quoted from the CID example. In fact, a shared 3D workspace adjoining a regular 2D web page where filmed materials unfolds can be viewed as an implementation of some of the key elements of the Exploration-time link-layout pattern. In the MediaLab example, the user navigates through clicking keywords in the mosaic of icons and in the elastic list, which brings him or her closer to some of the material and updates the list. In the shared 3D environment, the user navigates through walking (with arrow-keys and teleports) through a symbolic spatial representation of the (filmed or otherwise staged) material, which brings him or her closer to some of the material and updates the location in the shared 3D space. The main difference between the two designs is that the authorial act of association (tagging the material of the archive) in the former case is done based on a formal scheme of keywords that the user then interrogates, mediated by the automatist system. In the latter case, the authorial act of association (building the symbolic spatial representation) is done based on a less formal anticipation of use that the actual user then interrogate mediated by - nothing else than s/he can make out of the 3D spatial surroundings. It is here the articulation of formal rules for how the 3D-space is built becomes a
crucial factor for the calibration of authorial and user anticipations. The more authors and users agree about patterns such as Self-declarative object, and Time-layered building, the more expressive and rich the navigational support can become. Thus, the formulation of schemata, according to which a socially shared support can be given, takes place outside the machine. (On the other hand, when these patterns become transparent enough, there is nothing stopping the innovative author-filmmaker-technician from using the pattern Programmable navigational guide and add an automatist-like scheme to the navigational design.)

This far, I have recapitulated the patterns identified in the Examples part along the thematic thread of social subjectivity, an expressive property central to the documentary project and closely related to public service virtues such as objectivity and impartiality. The account resulted in a series of reflections about patterns that support other patterns. Towards the end of the account, the supportive patterns concerned institutional and re-presentational qualities rather than the basic framing and editing qualities developed in the early documentary. Evidently, the patterns identified in the Example part only represent a small fraction of all compositional intricacies going on in documentaries. However, I think that the compilation provides a sufficient sample relevant to the ongoing technological reshaping of the documentary project. To get a broader perspective on that question and specifically to highlight the question of pattern interplay, I will again turn to Jenifer Tidwell’s compilation from the field of Human-Computer Interaction, COMMON GROUND.

The candidate patterns in the light of a compilation of HCI patterns

Jenifer Tidwell applies the pattern concept to a very broad spectrum of activities in which computers are used. A quote from her introduction express this breadth and exemplifies one of the difficulties she discuss explicitly throughout the compilation, the difference between single-person and multi-person involvement.

The intended goal of this pattern language is deliberately broad: to support high-quality interaction between a person and a software artefact. The artefact may support one or more of a broad spectrum of activities, ranging from the most passive – absorbing information with little or no interactivity – to the hands-on creation of other objects. Consider some of the varieties of software out there today: Traditional desktop GUI software, Web sites, Palmtops
An important formal note has to be made here. Jenifer Tidwell applies, as I understand it, a “holistic” view which goes top-down(-top), (as applied for analysing in the original Alexandrian approach), rather than bottom-up(-bottom), (applied for synthesising, actually building). This view renders high-level patterns a “primary” status. Since “primary” is often associated with “basic” and “low-level” elements, I have chosen to exchange Tidwell’s use of “primary patterns” with the less ambiguous “high-level patterns”.

As we can see from the quote, Tidwell’s main focus is on “interaction between a person and a software artefact”. However, she rounds off her enumeration of activities with a multi-person activity. But, again, in her declaration of high-level patterns for action, i.e. modes of user involvement, there is a similar focus on single user activities. Out of the five high-level patterns, four are of the kind we associate with authorship while the last one denotes something which is going on while engaging in a film: Form (registering), Control Panel (controlling), WYSIWYG Editor (editing), Composed Command (messaging), Social Space (sharing). The single user focus is also reflected in the three high-level patterns for how the content of the artefact is shaped: Status display, High-density Information Display, and Narrative. On the other hand, what could be more natural than to emphasize the single-user perspective in an environment which is still predominantly used in that way?

What we are experiencing with computers is something quite close to what the pioneers of the documentary were engaging in while trying to extend the mode of reception from being predominantly “individualistic” to becoming more attuned to shared social values of the day. And Jenifer Tidwell gives us some valuable clues to how this extended usability can be facilitated on different levels. But they remain to be clues. In relation to Narrative she is very explicit about the inherent difficulties. The Notes section of that pattern description is begun this way: “Unfinished. I think this is a very important pattern to understand, but I don’t understand it yet. Natural language has wonderful, subtle gradations of meaning and emphasis that raw data can’t have. How do we decide it’s best to, say, give a
weather report in a narrative form, rather than as a table? An even greater respect is given to the multi-user pattern Social Space. In my copy of the compilation (dated May 17, 1999) this pattern remains “Unwritten”.

The clues Jenifer Tidwell supplies us with are located in other places than within the descriptions of the Narrative and Social Space patterns. One of the great merits of her compilation is that she is explicit about the formation of languages, the grouping of patterns which explains how they interact to form composite patterns and, ultimately, languages. Again, the helpfulness is grounded in caution.

There’s one thing you should keep in mind about this language, however, that it is atypical of other Alexandrian pattern languages. Most of these patterns can be used at many different levels of scale. A Form, for example, may be the dominant pattern in one artefact, while being a minor helper task in another. Likewise for a High-density Information Display such as a chart or a table. Small Groups of Related Things is recursive by definition, much like Composite in Design Patterns, and the concept of a working surface is also recursive – any single surface can be composed of a set of Tiled Working Surfaces, for instance. Because of this scale issue, I haven’t yet been able to draw a coherent diagram of the whole language, nor define clear linear paths through it. I am open to suggestions on how best to do this. For instance, the sub-languages are not much more than suggestions, based on which patterns seem to go well with each other; it shouldn’t be interpreted as exclusive or prescriptive. 

Although Jenifer Tidwell is very modest when presenting her suggestions for sub-languages, I think it is here she succeeds best in casting light on the real versatility of the compositional elements. The first sub-language she proposes is this.

Narrative
Clear Entry Points, Go Back One Step, Go Back to a Safe Place, Bookmarks, Optional Detail On Demand, User’s Annotations, Convenient Environment Actions

To me, this outline paints a much more vivid image of how narrative works in digital environment than the Solution she suggests in the Narrative pattern description.
Solution: Convey the information via natural language. Use all you learned in high-school English class about good writing. If users might be skimming the text to find specific data items, use color, fonts, and white space to set off items of interest; for readability in some situations, try using ‘senselining.’

In the sub-language suggestion, we get the picture of a relevant, coherent stream which we can choose to enter, retake parts of, leave for a safer place, a stream which is relevant enough to leave bookmarks in, to inspect in greater detail, to annotate, even to take some fitting actions against. The means by which this stream is expressed is not specified, more than that it is supposed to have a narrative coherence. It could be a film, a sequence of still images, voice, a written narrative, or a blend of all those means of expressions. In the Solution paragraph of the actual pattern description however, only one of these means of expression is described, “natural language”. I am making this remark, not to criticize the description part of the pattern but to point out the expressive power of sub-language declarations. In the description, Tidwell interprets the concept of narrative in the strict sense of being a coherent account of a sequence of events. The emphasis seems to be on coherency, a useful focus in a media discourse where the word narrative often is used to denote anything that may tell you something, regardless of whether that something can be shared between readers/viewers in any meaningful way. In the sub-language suggestion however, with a sustained stress on coherency, we can read in any language which is consistent enough to make sure that the tale we are following is probably shared with our fellow followers, regardless of whether they are co-present or not. The contrast between pattern description and sub-language suggestion becomes even greater in the case of Social Space. While the former remains unwritten, the sub-language suggestion for it gives interesting clues as to how documentary material may unfold in digital environments.

Social Space
Interaction History, Convenient Environment Actions, User Preferences.

Further clues are given in an additional sub-language suggestion, the one for Navigable spaces. That a sub-language is proposed for this pattern brakes the overall symmetry of the compilation somewhat, since it is one of only two sub-languages that is not supporting high-level patterns but lower level ones.
Navigable Spaces
Map of Navigable Spaces, Clear Entry Points, Go Back One Step, Go Back to a Safe Place, Interaction History, Bookmarks, Pointer Shows Affordance, Short Description, Disabled Irrelevant Things, Progress Indicator, User’s Annotations

Both these sub-languages evoke the sense of a dynamic stream that we are invited to immerse ourselves into. The latter have many patterns in common with that of Narrative, a suggestion that confirms the notion that successful narratives are not always averse to overt interaction and that they sometimes even employ stylistic devices to encourage it. We can also note that both Social Space and Navigable Spaces are supported by the pattern Interaction History. This brings us very close to the documentaries from the M.I.T. MediaLab, presented in the Example part, in which some of the key patterns identified evoke the same affordance as that described in Interaction History.

Solution: Record the sequence of interactions as a ‘history.’ Keep track of enough detail to make the actions repeatable, scriptable, or even undoable, if possible. Provide a comprehensible way to display the history to the user; most artefacts that implement this pattern use a textual representation, especially Composed Command, but that’s not a requirement. (In fact, a history for Navigable Spaces may be better portrayed as a state diagram, showing single steps, backtracks, etc.) If the artefact is capable of saving its state, as with Remembered State, give the user the option of saving the history from session to session.

The correspondence between this pattern and Exploration-time link-layout can be traced further, to the assisting pattern Remembered state mentioned at the end of the paragraph. The solution paragraph of that pattern illustrates the caution that has to be taken if the memory function is to transcend individual sessions.

Solution: Design the artifact so that it can remember its state from session to session. If multiple users are likely to use it, make sure the state is saved on a per-user basis. The state should be recalled and reconstructed without any user intervention, so that the illusion of continuity is convincing. Keep in mind, though, that sometimes a user may not want the state to be recalled! Give the user an option to start fresh if they choose.
At first sight, this pattern does not seem to provide for much more than the saving of session logs between sessions. But the remark that the artefact may have multiple users makes it particularly interesting in this context, even if the advice centers on the problem of mixing up histories, rather than sharing them. The prime focus is on many single users who have all the reason in the world to be uninterested in each others sessions, since, presumably, the material the artefact is dealing with is not at all about sharing. But if the material would be of a general, social interest, the advice could as well go on to suggest schemes for sharing session logs, to get to know each others preferences better. Compared to the Murtaugh device, which I have tried to grasp in the slightly awkward name Exploration-time link-layout, Remembered State has quite a limited memory. At any stage along the exploration, it remembers where the viewer has been, and this cumulative memory can be saved, and thus remembered for a longer time, at any stage. But Remembered State can not remember for how long the viewer stayed at each place, if there are any meaningful patterns hidden in the order and timing of the paths of traversal, and it can’t supply the viewer with any suggestions based on those patterns during the actual exploration. As I have understood it, this is what the innovative device developed by Murtaugh accomplishes. (Even if it can’t save those dynamic logs between sessions. But this seems to be a very simple addition any knowledgeable programmer with access to the Automatist system could device. Similar to the addition of an interface to the dynamic memory-persistence parameters, a supplement which seems to be an even more important provision in respect to conditions for social sharing.)

I noted above that Tidwell’s suggestions for sub-languages gave important clues to the high-level patterns the enumerated patterns offered support to. Navigable spaces was neither mentioned in the description or in the sub-language enumeration of Narrative. But its sub-language makes it clear that it has much in common with Narrative. And, in two of the patterns that support Navigable Spaces, Interaction History and Remembered State, Tidwell points out that these two patterns in turn (i.e. recursively) should use Navigable Spaces rather than command line lists or text. That the narratives (or to be more exact meta-narratives) of session-logs should comply with the environment they trace, clearly indicates that Tidwell is all for Navigable Spaces to tell histories. To sum up this discussion about how sub-languages can cast light on pattern descriptions, I would suggest that all the three patterns discussed here – Navigable Spaces, Interaction History, and
**Remembered State** – should be included in both the sub-language declaration and the pattern description of the important *Narrative* pattern. Much the same argument could be done in respect to *Public Spaces*, the other relevant high-level pattern of the compilation. In the sub-language declaration of that pattern, only *Interaction History* is mentioned. But Tidwell’s insightful discussions of each of the two other supportive patterns examined here make it clear, in my view, that they, too, as many other of the (extended) *Narrative* sub-language, should belong to *Public Spaces*. To exemplify the relevance of her discussion for the task of analysing contemporary documentary film, her finale remark to the *Interaction History* pattern could be quoted.

Notes: Jakob Nielsen pleads for better visualization of Web browsers’ navigation histories in his November 1, 1997 Alertbox column:

‘Well, we can now sort the history list so that all the pages visited on a given site are listed together, but visualization is still missing. It would be very useful to have active sitemaps that showed the user’s movements with footprints, showed additional detail at the current focus of attention while collapsing other regions, and also showed connections to other sites with a preview of the relevant sections of these other sites.’

All in all, I think Jenifer Tidwell’s compilation of design patterns for HCI design is compatible with and supports many aspects of my own compilation of candidate pattern for documentary filmmaking. Many of the patterns have traits in common and similar arguments as to their composition. More importantly, Tidwell’s discussion and use of language sets confirm the soundness of my emphasis on working top-down and trying to assemble many candidates rather than focusing on a small set with detailed descriptions. One of the obvious next steps in examining the usefulness of my candidate patterns in regards to the HCI-field would be to evaluate if my proposed expansion of the two high-level patterns in Tidwell’s compilation is feasible; and if so, to what extent some (or even all) of my candidate patterns can be developed and transposed in order to be included in a more comprehensive compilation. It is the problems of such a development I will concentrate on in the remainder of this chapter, since they evoke what I consider to be important questions about how different conceptual framework may complement each other. It has been noted in the design pattern community that this is not an easy question. Even if they share the underlying understanding of what patterns are, and what
purpose they should serve, neighbouring pattern compilations sometimes have problems to resonate which each other. The openness that provides for generativity sometimes seems to cause an overproduction of non-compliant descriptions.

Sub-genres within history programming

If my compilation of candidate patterns should be developed into a more comprehensive counterpart relevant for the HCI-field, then the meaning of the term “documentary” would have to be stated with approximately the same level of exactness and empirical grounding as the key concepts of the compilation with which it should merge, (“narrative” and “public space” among others in the case of COMMON GROUND). Moreover, I have loosely delimited the specific branch of documentaries for which I think my compilation is useful as “history programming”. As I will discuss in the next chapter, the capacity to inscribe history is one of the most commonly claimed characteristics of documentaries. This is a definition that I wholeheartedly subscribe to and which makes the centre of my openly defined body of films somewhat less controversial and unclear. My examination of the example films shows that this kind of historical programs could be constructively explicated by compositional patterns that support more overarching patterns, such as those of Narrative and Public Space in the Tidwell collection.

The question now is whether there are any other overarching symmetries which are more relevant to my examples than those of Narrative and Public Space. And I think there are. At least two sub-genres in the overall genre of historical accounts have reasonably clear definitions that suggest an important separating line that can be drawn between my example films – biographies and chronicles. The synonyms given to these terms in my synonym vocabulary is: memoirs, life story, life history, story of your life; and records, archive, history respectively.27 Even if the border between the two may be unclear, I think the grounds for grouping these two sub-genres supply is an important one. To use the vocabulary of Altman, who analyses (sub)genres in terms of their semantic-syntactic-pragmatic evolution, the grounds referred to here seem to be of a semantic nature – does the film centre on an individual human life (or something else that can have a life) or not? And if we look further for terms that denote content/semanitcs rather than form/syntax we can come up with other qualifiers that may, or may not, be useful in a more elaborate analysis of historical sub-genres. A quick look in the Examples part of the table of contents supplies the following supplementary markers: culture, science,
industry, architecture, and workplace. The two first films, which do not evoke that kind of markers for societal situatedness, may evoke more general qualifiers denoting form, such as “essay” and the prefix “auto”. All in all, this would give me a preliminary set of seven sub-genres: essayistic biographies, autobiographies, science biographies, cultural chronicles, industrial chronicles, architectural chronicles, and workplace chronicles.

What I end up with when taking semantics, and not just syntax, into account is a quite different set of sub-genres than the sub-languages suggested by Jenifer Tidwell. Instead of going on to relate my candidate patterns to their counterparts in the HCI-collection, I could start to propose that Public Space is indeed an important high-level pattern in the domain of history programs, that it employs Narrative extensively, and that it includes sub-genres of many kinds. I could then go on to propose that the closeness to the protagonist is an important dimension in regards to how we engage ourselves in the film, (e.g. as being very unlike and/or very much like the protagonist) and that the societal environment depicted is another essential characteristic. That would give me a preliminary set of sub-genres which seem to have sustained the shifts of time and media technology. The (evolution of) essential characteristics of these sub-genres should, to a large part, be visible from the way their compositional patterns have been re-combined. In that way, the sustainability of the “classical” documentary patterns in essayistic biographies could be examined (A DIARY FOR TIMOTHY). That would amount to a formal history depicting the re-use (over time) of e.g. Poetic imagery, Associative montage, and Recording reconstructed events, not only in projects like Erik and the portraits of Oppenheimer and Wiesner, but in the rich vein of documentaries that (can be hypothesised to) belong to essayistic biographies, and not to the other tentative sub-genres.

Similar histories would have to be written for each of the proposed sub-genres, in order to confirm their sustainability across time-periods and media technology. In the limited space here, I can only suggest what kind of empirical material the pattern-informed perspective could generate in such more detailed studies. (My aim being to demonstrate the feasibility of the approach, that certain patterns are indeed recurrent in their respective sub-genres.) Hence, patterns that describe alternative postures in authorial voice – such as Sovereign posture, Helper posture, and Background posture in the Tidwell collection – would have to be included when histories about the “unmediated” autobiographies are written, (Erik). Such
histories could then focus on the interplay of postures between cameraman (acting, talking, talking to each other etc.), director (as catalyst), media team (as coordinator), and community (as distributor). It is my strong belief that the use of these patterns as “search lights” or “compositional hypothesis” would yield a rich empirical material on these central topics, (as well as on the re-use of more “essayistic” patterns such Poetic imagery and Associative montage within autobiographical documentaries).

I am also convinced that patterns that depict authorial voice would give many concrete insights in histories of science biographies (sci-bios such as Else on Oppenheimer and Wiesner-colleagues on Wiesner) where questions of authority, and the posture from which authority can be portrayed, are of central concern. In John Else’s portrait of Oppenheimer, although many of the essayistic patterns are reused (Poetic imagery, Associative montage), the film can be said to exemplify an extension of Public point-of-view (systematic interviews with scientists and laymen who give witness to the first detonation and other crucial events from their respective point-of-view). The pattern Intertextual reference is present, both in its original form identified in the Jennings films, and in an instrumental extension of it, as Integrative use of expressive forms. Thus, comparing this science biography to one of its essayistic predecessors suggest two instances in which patterns seems to have been elaborated and institutionalised, a suggestion that can only be confirmed through systematic genre histories of science biographies, as thorough as the Allen and Gomery study of American Cinema Verité I summarized in the Introduction.

Even if projects on CD-ROMS, DVDs, and websites have not yet had the chance to prove the longevity (over generations) of their new compositional patterns, three of the common patterns identified in Prelinger’s cultural chronicle and Else’s science biography – Integrative use of expressive forms, Cast of character, Glossary – can, to different extents, be found in Cringely’s industrial chronicle (all three), the architectural chronicle of CONTOUR (the two latter), the science biography A RANDOM WALK (the first, and “randomised” versions of the two latter) and the workplace chronicle CYBERYARD (the first, and, randomly, the second). What is more important is to show if, and how, two of the other patterns identified in the Else project, Explicit declaration of interpretative problem and Explicit intertwining of chains of events, would be related to different modes of authorial voice. The kind of goal-oriented, interrogating account these pattern support is not present to the same extent in the Weisner portrait, that according to my suggestion should
belong to Sci-bios but which has a collegial tone that places it closer to the Cultural chronicle. On the other hand, both the Prelinger and the Cringely projects, hypotheses here as cultural and industrial chronicles respectively, do exhibit these patterns of explicit interrogation. Again I have to conclude that, even if the patterns identified here can be shown to have a longevity, a media-crossing potential, and a recurrence that testify to their centrality in historical programming, the difficult task of identifying sub-genres remains.

I have already emphasised that future studies, along the lines proposed in my introductory section on reception studies, has to be a collective effort. What I have tried to show here is what kind of design topics, and empirical data clarifying these topics, a pattern-informed perspective can generate. I think it is a fascinating consequence of the design pattern framework, that its systematic highlighting of details (along the context-problem-solution-resulting context path) first has the liberating effect of encouraging inter-disciplinary dialogues, but then, when the interlinkages between patterns has to be accounted for, throws the analyst back to his or her native field of study. In my case, when the individual patterns are identified and the distributed character of their interlinkages has to be determined, the Altman schema of genre evolution turns out to be the most convincing framework to turn to. Specifically, it is Altman’s insights into the multitude of concerned audience groups – the diversity of “users” – that strikes me as constructive. In my view, if and when the pattern framework becomes a complement to both Cinema studies and Computer Science, and thus may become a bridge between them, it is Altman’s conception of genres that will provide some of the most constructive contributions. According to his understanding of the term, genre is a complex web of overlapping social practices that constitute a never-ending negotiation between a dynamic set of audiences/users. In empirical studies of such negotiations, the pattern concept can concretise what Altman loosely describes as “rearrangements” of semantic-syntactic devices. But first the social setting under consideration, and its borders to other neighbouring social settings, has to be determined. Here Altman’s suggestion that studies along the lines of pragmatics may reveal the overall social aspects of audience engagement in more far-reaching ways than what the pattern formalism itself can provide for. The Uricchio/Pearson contribution, to construct intertextual frames (in terms of genre patterns) through which “historically grounded possible readings” could be extrapolated, suggests a practical way in which such reception studies could be performed.
Part 3: Discussion

The HCI-perspective of Thomas Erickson, which I referred to in my Introduction, proposes a shift of the social and historical situatedness of patterns, from being timeless to becoming timely in a social sense. Similarly, the Altman perspective contributes an analysis of how social dynamics work on many levels simultaneously. Alexander delineates many communities, in terms of age, occupation, and neighbourhood. Erickson extends this understanding by emphasising that each industry and each role in that industry has a sense of identity strong enough to shape the outcome of the industry’s efforts as a whole. The glimpses Robert X Cringely provides us with, from the offices and laboratories of digital media production centres, give ample evidence to the dynamism of those identities.²⁹

What does all this add up to, in terms of the complementary qualities of the pattern methodology I have focused on as a measure of “noncontradiction”? Björn Eiderbäck, a colleague at CID, has recently explained the versatility of the pattern framework for Object Oriented Programming by pointing to its similarities with Aristotle’s four causes at work when matter is formed by man: the material, the formal, the efficient, and the final causes.³⁰ Even if the interpretation of these terms may vary between authors (Eiderbäck refers to A. Mason HISTORY OF THE SCIENCES)³¹ it is striking that Dudley Andrews, one of the most prominent theorists of Cinema studies, uses this same schemata when trying to compare, and look for complementarities between, the major film theories that have been developed throughout the existence of this comparatively young medium. Andrews uses the terms: raw material, method/technique, forms/shapes, and purpose/value.³² This leaves us with an interesting ancestry which may partly explain why the pattern framework seems to complement other kinds of conceptual frameworks so conveniently, at least as an alternative perspective that calls for reconsideration of interlinkages and categorisation schemes. Eiderbäck also points to the fact that a whole range of formats for pattern description have emerged as an evidence to the inherent scalability of the methodology.³³ Other characteristics that support scalability of use is the hypertextual outline of the framework, that links between elements are accounted for not just within each element, but cumulatively, in the higher level elements that are supported by them. The frequent, and in some formats required, use of synonyms is yet another sign of this kind of versatility.

The brief encounter above, between my candidate patterns and a collection of HCI-patterns, shows that, although a common formalism allowed design arguments from two different fields to be related to each other in a systematic manner,
there are also important limitations of the framework. Most of those limitations may be explained by my own relatively short experience with the methodology (four years) but others are probably explained by the fact that the application of it has not reached outside of the Object Oriented Programming community until quite recently. (the first two-day workshop about design pattern for HCI to be held at CHI, one of the main events of the HCI-community, was arranged as late as in May of 2000). This may explain, for example, that there is still not much material that describes for whom, and by whom, patterns should be identified and analysed. Jennifer Tidwell gives good general guidelines as to how and when patterns can be used. And consulting the writings of Christopher Alexander and colleagues gives an important background. But the practical advice about how to use the approach within an institutional setting still comes almost exclusively from the OOP community.

The lack of guidelines for how to write pattern languages in different fields may also be due to the fact that design patterns are primarily used by practitioners in their daily work, and not (yet) by critics and scholars that analyse actual designs. The compilation of a set of patterns for a certain task tend to concentrate on the challenges at hand. The basic aim is that the compilation should be sufficient for that design project. Less time is set aside to compare the symmetries that evolve with the kind of symmetries found in other projects. At the other extreme, an application of the framework to Media studies would mean that practitioners and scholars from the relevant disciplines (Film and TV studies, Journalism, Mass Communication, History of Art, Literature etc.) would have to reconsider the elements of design canonized within their respective field, through the eyes of the neighbouring, and often competing, disciplines. This leads to questions about how such an exchange should be arranged, in practice. To what extent do the different modes of representation within Media studies – sub-genres such as the critical article on the individual media artefact (or groups of artefacts), the historical account, the theoretical treaty – to what extent do these modes address practical design issues? And when practicalities are addressed, according to what logic are those issues related to each other?

What could be asked of a common, or complementary, analytical framework, I think, is that it should account for all the roles that take part in an innovative design. This set of role descriptions should ideally try to include all the significant patterns that together make up the pertinent activities exerted by the actors involved in the design effort. This is not only to rephrase the problem of pattern
resolution and composition. My belief is that it is easier to frame the set of roles that contribute than to frame a set of (non-attributed) activities. Evidently, what should be regarded as “roles and their pertinent activities” still has to be determined in relation to other applicable interpretations in the field. Applied to the domain of documentaries in digital media this “user-oriented” guideline would mean that the analysis should include a crucial set of both programming and compositional patterns, i.e. take into account both what “technologists” and “artists” has contributed. That way, the analysis could focus on the material and cognitive interplay going on in the practical, formal innovation process. I am convinced that sufficiently much new (and old) interdisciplinary insights may be (re)gained from such an analysis to justify the application of the pattern framework to the study of non-fiction film and to some of its neighbouring fields.

An additional note on language should be made while I am reconsidering my own genre expectations. In writing this thesis, I have tried to follow the guideline that an author should account for his or her own personal interpretations in a concise and traceable way. A prime goal of media studies is that it should support media practice on all levels of usage, from the intricacies of design to the basic rules of interpretation. But the different practices has to be supported by their own dialects, dialects that emerge slowly within the respective domains. Thus, the design critic and historian has to write in the dialect of his or her colleagues. In this respect, the pattern framework used in an organic way, can be seen as an antidote to the use of jargon. Moreover, I believe that personal revelations often may be more efficient than abstract accounts when relating design experiences between people. What I am trying to say is that although I am writing in a genre of extreme abstraction, I have tried to move in the direction of the personal account. To put this in an even more pointed way, sometimes (specifically when not practicing theory) I think it can be advantageous to picture both technological and compositional innovations as, at least to some degree, the works of chance. Knowing that crucial solutions often appear as surprises, both to their originators and to their supporters, may make them more visible upon reconstruction. It may also make it easier to grasp the totality of the innovation, that some of its contributions may come from very unexpected sources, in terms of user involvement. Such a widening of the scope for user contributions in turn emphasise the abilities of the innovative designer to recognize when chance developments become crucial. At that time, upon revealing how things can actually be solved, an important task

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becomes to argue for that fact – that the actual design arrived at is indeed the design solution sought for.

In this chapter I have examined to what extent my application of the design pattern framework in documentary film studies can complement, and be complemented by, other neighbouring conceptual frameworks. I have used Jenifer Tidwell’s pattern compilation, *Common Ground*, as the obvious first test bed, since it is a respected work within the design pattern tradition and since it deals with “the other” technology documentary filmmakers are now about to encounter. The examination has led me to the conclusions that the pattern formalism offers a systematic way to account for design experiences that can be of great help in interdisciplinary dialogues. But I also had to conclude that the formalism’s support for ownership accounting (in terms of involved users) and for historical preconditions (in terms of maturity of interlinked patterns) is not “hardwired”. These critical aspects have to be explicitly addressed in each pattern description, often through cooperation with experts from technological, sociological, or linguistic fields.

The Example section resulted in the identification of 43 candidate patterns which were further discussed in this chapter, in terms of their interrelations. My foregrounding of thematic/semantic aspects, and the encounter with some of the key elements of the compilation of HCI patterns (*Public space, Posture/Authorial voice*), helped me to propose, very tentatively, a set of possible sub-genres within “history programming” (essayistic biographies, autobiographies, science biographies, cultural chronicles, industrial chronicles, architectural chronicles, and workplace chronicles). Although the identified patterns did help me discern important differences between the example films, the scope of the thesis (number of films examined, number of patterns identified, interlinkages probed, reception/user-feedback consulted etc.) did not allow me to establish the distinctiveness of these sub-genres with reference to the identified patterns. Thus, my general conclusion is that the pattern-informed genre perspective deserves further scrutiny, both from my own discipline and from the point of view of HCI. Future research should ideally engage practitioners in the fields of film and HCI, at the same time as it employs structured reception studies in order to obtain a rich feedback from selected user communities. In my final chapter I will look closer on one (very) specific technique for capturing movement. That will result in a discussion which is centred clearly within the field of Cinema studies. However, this does not mean that its findings will not be of any concern for computer scientists or art historians.
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Chronography as a Manifestation of the Pattern Methodology

In the preceding chapters, I have demonstrated how the design pattern approach can enrich the vocabulary for documentary film analysis. A central theme in my argument has been to show how closely many of the established concepts for describing compositional solutions - stylistic devices, schemata, rhetorical figures - are related to the concept of design patterns. On the level above individual stylistic techniques, I have shown that the concept of genre, as it is understood by Rick Altman, has its counterpart in composite design patterns, made up of specific sets of lower level patterns. According to this interpretation of Altman, genres embody semantic-syntactic patterns on a pragmatic level by associating them with a communicative purpose, expressed within a historically situated community. In the preceding chapter, I exemplified how the identification of sets of design patterns within one particular genre may be a constructive step towards specifying the role of individual syntactic techniques in relation to their semantic and pragmatic contexts.

In this chapter, I will narrow the focus to one particular formal technique, chronophotography, and its special relation to the design pattern approach. My aim is to show that the chronophotographic technique can be regarded as a material manifestation of the pattern methodology. My arguments will be that it is a practical realization of that methodology and that its theoretical underpinning, articulated more than a hundred years ago, to a great extent parallels that of the pattern methodology. I will support these arguments with frequent references to the work of Stephen Mamber who has written extensively on digital imaging technologies and documentary techniques. To show the relevance of comparing chronophotography with the pattern methodology, I will also refer to the works of Philip Rosen and Manuel Castells. Rosen has emphasized the close interdepend-
ence between temporal sequenciation and historical interpretation and his notes on the importance of providing alternating perspectives on historical chains of events have a strong bearing on imaging techniques. Castells has claimed that it is crucial to lay bare the space-time paradigms of today’s digital communication systems, in order to understand how these systems have evolved historically. And to be able to reveal the inner workings of different space-time paradigms we need to have the capability to embody them in alternating imaging technologies.

Chronophotography as a movement capturing technique

The chronophotographic technique was developed by Étienne-Jules Marey during the 1880’s and 90’s. Its capacity to capture complex movements in a single image, through controlled multiple exposures, immediately gained attention from scientific as well as artistic practitioners. Until recently, it is the artistic applications of the technique, by painters and filmmakers such as ManRay, Malevich, Leger, and Duchamps, that has earned Marey most of his reputation. However, the last couple of years, the unique blend of scientific and artistic methods that guided Marey has been acknowledged by scholars from many fields. Marta Braun has collected, analysed, and commented a broad range of his experiments from the point of view of a film historian. Edward Tufte has analysed Marey’s breakthroughs on a more general level that highlights his importance as a graphic artist and a theoretical innovator. In a series of articles, lectures, and digital prototypes Stephen Mamber...
has built on these re-evaluations and demonstrated the applicability of chronophotography to digital media and to some of the formal tendencies within modern cinema.37

Chronography, digital devices and the principle of digitalisation

When examining Marey’s overall relevance to current technological and formal trends, Stephen Mamber considers both Marey as a graphic artist, frequently building on and refining the work of earlier artists, and Marey as an engineer of rendering techniques. Mamber emphasizes that Marey in both instances, when redrawing a train schedule or when capturing the flight of a bird, applies the same principle of motion-tracing, the principle of chronography. Marey presented the rationale for this principle in his book La Méthode Graphique dans le Sciences Experimentales et Principalement en Physiologie et Médécine (Paris: Librarie de l´Academie de Medécine, 1885). And today Mamber underscores the generality of the chronographic approach in relation to the chronophotographic technique, thereby making us see its applicability to what might emerge as a chronodatagraphic method.

To demonstrate the applicability of chronography in a convincing way, Mamber shows that many of today’s digital devices for physiological movement rendition were prefigured in fully functional mechanical devices invented by Marey a hundred years ago. Mamber shares Braun’s and Tufte’s conclusion, that it was a unique blend of theoretical foresight and experimental care that provided the foundation for Marey’s work. In Mamber’s account, it is the wealth of references to functional devices that provides the ultimate verification of Marey’s artistic-scientific foreknowledge – physiological sensing and signalling devices, 3D rendition, image compression, movement control mechanisms etc. All these devices clearly reveal Marey’s key scientific contribution: the analytical rendering of discrete, quantifiable changes that make up complex physical movements.

According to Mamber, it is the insight into the principle of digital rendition that makes the experiments of Marey reveal the potential imaging powers of the computer. By putting our current digital devices into an appropriate historical perspective, Mamber makes a forceful proposition that we should look upon computers as chronographic engines rather than as mathematical machines: “computers can be looked upon as pixellated simulation engines – in fact as a kind of chronographic machine itself”.

Having highlighted the parallels between chronography
and the digital imaging techniques of today, Mamber proceeds to re-examine some of the key cinematic conventions of early and modern cinema.

Chronophotography and Analytical Cinema

Marey was a regular customer at the photographic laboratory owned and operated by the Lumière brothers. It has been claimed that it was he who inspired the Lumière brothers to begin their experiments with techniques for motion capture. But Marey was not impressed by their invention. And Mamber explains why, in a way that makes us appreciate both the analytical and the artistic advantages of Marey’s approach. “Marey’s chronophotographs are constructed to reveal the hidden, not to record the already visible. (...) It is as if the idea of movement must be abstracted from the particulars which photography would make overly distracting. A process of visual reduction was needed to arrive at an essence.” The most obvious advantage of Marey’s approach seems to be the purely analytical “to reveal the hidden”. But the important thing is to understand that the analytical clarity accommodates for deeper insights that indeed may “arrive at an essence”. In this respect, Mamber’s appreciation of Marey’s movement studies may be compared to Béla Balázs’ thesis about the artistic implications of the close-up or to Walter Benjamin’s analysis of the revelatory powers of slow-motion techniques.

The re-evaluation of chronography as an emergent imaging technology has consequences for the appreciation of some of the groundbreaking contributions made in early cinema. Mamber notes that envisioning the future of film calls for a repositioning of some of the major polarities. “Cinema as an analytical tool might well be a non-illusionist medium closer to Marey than Lumière.” This would mean that the usual illusionist-realist dichotomy between Méliès and Lumière might be transposed into one that span the polarities (and perhaps some of the commonalities) of Méliès and Marey. Such a widening of the scope of what cinema can be about has far reaching consequences, especially for the kind of film that claims to account for historical events, the domain with which this study deals. In an era marked by fragmentation and a dwindling indexicality of images, the emerging analytical power of chronography points towards new possibilities for cinema to reinforce its ties to the profilmic, by accounting for processes, rather than instances of motion. In earlier chapters I have exemplified how such processes can be represented in the documentary, by intertwining the moving image into scores that authenti-
cate the ephemeral image by making it traceable. Although Stephen Mamber perhaps is most noted for his studies of documentary film, his encounter with the digital has also led him to examine hidden analytical qualities in a very different kind of cinema.

To explain the artistic implication of a deeper analytical scope, Mamber refers to André Bazin’s emphasis on the fact that “the cinema of the future hasn’t yet been invented.” What Mamber is looking for is the artistic conceptions of cinema’s extended analytic power: “Directors bridging significant technological change through an aesthetic which incorporates a broader understanding of the medium – putting the conception of the medium above the transitory nature of the technology at any given moment.” Mamber asserts that the digital in 1998 is where the cinema was in 1898, only in its beginnings. Therefore we have to contend that it is only the contours of the new concepts of cinema that may be visible for us today. But it is not, as one would expect, in the esoteric films of avant-garde experimenters that Mamber finds these contours of the future. It is in the films of directors like Stanley Kubrick and Alfred Hitchcock.

Movement analysis and Conceptual Cinema

We may not be quite prepared to see Hitchcock as a director of Conceptual Cinema. But in a series of articles and demonstrations Mamber reveal Hitchcock’s systematic interest in formal innovation, in developing new ideas about composition which have an existence in themselves, as concepts, independent of their implementation. Hitchcock made some well known complaints about the boredom he experienced with the physically and socially demanding work of directing. Mamber shows that Hitchcock’s remarks, that he already had completed the interesting work in his head, can be supported by a close look into the storyboards of films like THE BIRDS. One of Mamber’s demonstrations, in which the sketches and directions of THE BIRDS can be ran alongside the finished film, prove that the film was indeed completed before production was started. Very little was changed from the original conception during production and postproduction.

Which are the formal innovations in the conceptual cinema of Alfred Hitchcock, the new and original concepts that express the extended analytical powers of cinema? Mamber finds the mature realisations of concepts prefigured by Hitchcock in an industry that is on the verge of surpassing Hollywood in most indices of importance. In interactive multimedia the concepts and conventions
heralded by Hitchcock have become routine procedures: The bird’s eye view, The flyover, and The walkthrough. It can be argued that Hitchcock established, rather than prefigured, these conventions as popular devices of Hollywood cinema. That the devices he installed have made such an imprint on digital artists that they more or less unconsciously have followed in his footsteps. First of all, such an appreciation of Hitchcock indeed strengthens the characterization of Hitchcock as a director of Conceptual Cinema. His formal innovations, his ways of seeing, have taken on a lives of their own, beyond their implementations in individual films. But there are further arguments for using the word “prefiguring”, rather than “establishing”. One of them is that the concept, the figure, was there before the film. And, as we have seen, for Hitchcock this was the creative and interesting part. Apart from this, what Mamber makes clear is that other directors and artists had moved in the same direction. And in one of his articles, he draws the line from Conceptual Cinema all the way back to Marey.

There is one specific device used by Hitchcock that has a striking resemblance to the All-at-a-glance map of Marey: Mamber characterizes it as “Map of the route to be taken”. He mentions the example from STRANGERS ON A TRAIN where the route to a murder is neatly laid out on a plan of the building where it will take place. The map functions as support for the later Walkthrough of an environment where neither the central character, nor the audience has been before the actual event takes place. Similar examples of maps that provide films with an almost clinical analysis of spatial whereabouts can be found in the works of Fritz Lang where villains and the law are systematically retraced with camera and map working in tandem. What Mamber finds remarkable in Hitchcock’s way of using the device is the systematic fashion in which it is employed. In the example form STRANGERS ON A TRAIN, the map is complete with arrows and directional notes laying out the order of steps to be taken. Even the key is attached to what Mamber finds to be “a blueprint” to the murder.

In his analysis of Hitchcock, Mamber identifies a level of conceptual construction above that of individual cinematic devices such as Bird’s eye’s views, The flyover and The walkthroughs. Again, he refers to what might seem to be just a playful comment by Hitchcock. This time the comment concerns PSYCHO actually being an “amusement park ride”. Mamber takes him seriously and manages to show that there is more consequence to this remark than one might think. By examining the two other films with which Hitchcock grouped PSYCHO, he identifies
three sub-genres of the broad category of psychological suspense. The way in which these sub-genre are characterized is interesting, since it transcends narrowly defined domains of cinema and thereby makes us anticipate the new (an old) contexts in which the cinema of tomorrow may be enjoyed: Psycho (1960) may indeed be regarded as a new variation of the old Amusement park ride – “a ride through the old dark house, hiding its basement secrets until the end of the journey”. In this abstract, conceptual perspective, North by Northwest (1959) assumes membership in the broader genre of Adventure games – “getting the hero out of a series of tough situations through ingenuity and resourcefulness”. By the same token, the following film, The Birds (1963) becomes the prototype of popular digital Shoot-em-ups – “the horrific, most unexplainable series (in terms of simple motivation) of attacks by a near abstract foe”. 

Mamber elaborates the theme of Conceptual Cinema as space-time analysis in another article in which he takes a closer look at one of Stanley Kubrick’s films, The Killing (1956). Mamber characterizes the film as “a conceptual exercise in time travel (…) a flashback film with no flashbacks”. In the article on Hitchcock he describes Kubrick’s as one of the typical exponents of Conceptual Cinema. Kubrick’s disregard for physical reality shows, according to Mamber, both in his treatment of locations and in the way he uses actors. “Real” locations are systematically ignored and actors either express “extreme flatness” or “extreme loss-of-control”. His films turn out to be “elaborately mounted theses; complex conceptual arguments that operate on visual, narrative, and thematic levels.”

In the Kubrick article, Mamber examines how the passing of time is accounted for in The Killing. With reference to Gilles Deleuze’s studies of time-images in cinema, Mamber proposes that what makes this flashback film work, without using the actual flashback device, is a systematic use of simultaneity and overlap. Here Mamber takes an important step in the study of affinities between the conceptual cinema and the chronographic method. What he does is to apply the chronographic method to make sense and give new insights into conceptual cinema. This results in an All-at-a-glance map of The Killing, a diagram inspired by a visual train schedule for the Paris-Lyon traffic, transposed to visualize the flow of time in a moving picture.

The x-axis of the diagram represents the duration of the events played out in the film while the y-axis represents the duration of the film itself. By plotting out the non-linear relationship between “the time of the told” and “the time of the
telling” Mamber succeeds to show how simultaneity and overlap is systematically used to reinforce the sense of “loss-of-control” conveyed in the treatment of characters, narrative, and location. For the prospective passenger of the Paris-Lyon line, Marey’s time/space map can be used to choose among different times of departure with the respective window sceneries (and arrival times) they offer. For the prospective cinema-goer, Mamber’s time/space-time map (or perhaps simply time-time map), can be used to choose among different sense-making departures with the respective (relatively incoherent) perspectives they offer. The diagram is an almost indispensable device for the engaged viewer who really wants to track the intricate web of meaning-making threads in THE KILLING. It has a wide applicability as an analytical and navigational device and it proves convincingly Mamber’s point, that Marey’s chronographic method may indeed have an important part to play in the cinema of the future.

Chronophotography as a pattern rendering technique

At this point of my argument, I have shown, with references to Tufte, Braun, and Mamber, that the chronographic method is an accepted and well proven imaging technique for movement analysis. Chronography builds on the principle of digitalisation. Its application a hundred years ago prefigures many of today’s digital imaging devices and, if applied to the analysis of time-based art, it can enrich our experiences of complex artistic narratives. As a general “way of seeing”, it has in-
spired Mamber to reveal how other image-makers have prefigured digital devices, (Hitchcock’s Walkthroughs, Flyovers, and Blueprint maps). As a practical implementation, Mamber shows how chronography may be an indispensable aid for abstracting “the time of the telling” from “the time of the told”. This experiment is in itself an important break-through in an overall media situation characterized by fragmentation and loss of accountability. The notion of a time-time diagram is also a good starting point for my second theme in this chapter, that the chronographic method can be regarded as a practical implementation of the design pattern methodology.

Many of the parallels between chronography and design patterns should by now be obvious from my earlier presentation of the latter approach (see the chapter “Patterns of design” in Part 1). They both aim at visualizing complex physical movement in a way that accounts for discrete, quantifiable change. By concentrating their rendition to particularly relevant paths of change, they succeed to capture a richness of forces that can be experienced either as analytical or poetic. One of the most striking visual verifications of their parallelism in aim and technique is obtained when placing the famous map of Napoleon’s Russian Campaign, originally drawn by Charles-Joseph Minard (Figure 19), next to Christopher Alexander’s emblematic image of a road-crossing, (Figure 3). The former was used, and adapted by Étienne-Jules Marey, to exemplify a chronographic application in the field of historical inquiry. The latter was used by Alexander to exemplify a constructional diagram, i.e. a diagram that succeeds to show both the contextual requirements and the resulting design of a certain design task, one of the key responsibilities of a design pattern.52

A lot can be said about the resemblance between the two diagrams. They both render the movement in a map-like way from a fixed point above the movement taking place, the physical entities that take part leave traces that correspond

Figure 19. Napoleon’s Russian Campaign, as mapped out by Charles-Joseph Minard with adaptations made by Étienne-Jules Marey and Kathy Scott
to their geographic paths which are represented with a thickness of traces, paths
that correspond to a property of the entity depicted (strength of army and density
of traffic respectively). But there are also interesting differences. Since the property
depicted in the former diagram is variable and discontinuous, it amounts to a dy-
namic rendering, while the latter gives a static end-result of the flow of movement.
(If the entity depicted in the latter would have been e.g. congestion emitted by the
traffic, it too could obtain the dynamic, discontinuous quality of the former.) An-
other difference between the diagrams has to do with their different contexts of
use. The former image is a critical account of a military and political catastrophe.
(Since “teaching” and “warning” are two of the original meanings of the word “docu-
ment”, it can be argued that the Minard image indeed qualifies as a pre-photo-
graphic documentary.53 ) The ambition of the latter image, as of all design patterns,
is to identify and visualize a sustainable, and in that sense “ideal” or “timeless”, solu-
tion to a recurrent design task. This is the very opposite of the aim of the former
diagram. But again, a note has to be made that qualifies this difference. The way in
which proven patterns of design are presented in A PATTERN LANGUAGE is built upon
the explanatory power of contrasting images. Therefore, the Minard map could
very well have been displayed as an example of warning in that book. If so, it should
have appeared in pattern number 1. Independent Regions. The “timeless” photo-
graph that Alexander and his colleagues choose to represent this pattern is dis-
played in Figure 4. Its affinity to the imagery of Étienne-Jules Marey needs little
comment.

The comparison between the two diagrams in Figure 3 and Figure 18 could
be elaborated into a more rigorous exercise of definition for which there is not
much room here. That the design patterns in A PATTERN LANGUAGE all seem to be of a
static “end-result” nature may be the most noticeable difference. What is neglected
in such an off-the-surface notion is that in each pattern, all its lower level patterns
resonate simultaneously with their own unique characteristics. While
chronography displays the dynamics of a momentary movement, the goal of design
patterns is to display the dynamics of representative movements, movements in
which the representative quality is sustained, and may be checked, by lower level
displays. This is a meta-quality of the pattern imagery which may well be termed
“hypertextual”, even if that term was not in common use while the method was
conceived by Christopher Alexander and his colleagues. Thus, while it is essential
to view patterns as elements of a pattern language, the chronographic technique
allows us to view, or conceptually envision, the composite oscillation and rhythms of each individual pattern.

These general parallels in definition, appearance, and use can now be reflected upon in the light of Mamber's findings. First, I will discuss how the concept of patterns is already an essential element of the arguments, both in Mamber's texts and in the work of one of the authors to whom he repeatedly refers. Then I will focus on one of the experiments of Marey, an experiment to which Mamber pays a special attention. This discussion will lead to three concluding remarks. Firstly, it will confirm the centrality of Mamber’s experiment with a time-time diagram for navigational-analytical aid in digital media. Secondly it will supply further notes on the conceptual affinity between the chronographic and the pattern methods. Thirdly, it will provide a starting point for the discussion about Manuel Castells' claim, that the identification and analysis of space-time patterns in the media content of today’s global digital networks is one of the most urgent research tasks for the disciplines of Media Studies.

If there is the kind of affinity between the chronographic and the design pattern method that I have claimed, then this ought to show in the way Stephen Mamber discusses the former method. Indeed, there are many examples of how Mamber uses “patterns” as a conceptualisation of that which he finds characteristic in Marey’s work. One of them deals with “the overlap” that results from Marey’s way of capturing and compressing movement. “This love of serial overlapping seems to be both an appreciation of its intrinsic elegant beauty and to have an overriding goal of how sense could be made of the patterns which resulted when minor variations were graphed over a neatly designed set of parameters. The brilliant Marey chart was a database made strikingly visual through a recognition of pattern repetition.”54 To my mind, this recurrent use of the term “pattern” is not just an additional sign of the affinity between the two methods discussed. It is also an example of how the term “pattern” lends itself to conceptualisations of the flow of time. This, in turn, confirms that the driving motivation of both methods is to capture hitherto hidden space-time patterns. The applicability of space-time pattern analysis in the understanding of modern cinema is further demonstrated by one of the authors to which Stephen Mamber frequently refers, Gilles Deleuze. In Deleuze’s philosophical treatise The Time-Image, we encounter images vibrant with meaning, even those who do not move. “At that point where the cinematographic image most directly confronts the photo, it also becomes most radically distinct from it.
Ozu’s still lifes endure, have a duration, over ten seconds of the vase: this duration of the vase is precisely the representation of that which endures, through the succession of changing states. Deleuze offers a wealth of insights about how “the time-image” becomes a holder of a deeper understanding. One concerns camera-movement and spans a broad range of conceptual cinema, from the suspense movies of Hitchcock to the documentary tradition of Cinéma Vérité. “Hitchcock premonitions will come true: a camera-consciousness which would no longer be defined by the movements it is able to follow or make, but by the mental connections it is able to enter into. And it becomes questioning, responding, objecting, provoking, theorematizing, hypothesizing, experimenting, in accordance with the open list of logical conjunctions (’or’, ’therefore’, ’if’, ’because’, ’actually’, ’although …’), or in accordance with the functions of thought in a Cinéma Vérité, which, as Roach says, means rather truth of cinema [vérité du cinéma].”

Mamber’s recurrent use of the word “pattern” in his analysis of “time-images” strengthen the hypothesis that the common challenge of the chronographic and the design pattern methods lies in their aim to visualize space-time patterns. This hypothesis is further strengthened by the parallels that can be drawn between how Mamber emphasise one of Marey’s experiments with three dimensional movements, on the one hand, and, on the other hand, how Christopher Alexander demonstrates the rationale for introducing the mediating language of patterns in design work.

The lasting importance of Marey, according to Mamber, is that he, by clearly motivating and demonstrating his own rendering technique in a certain respect

Figure 20. Solid Figures in the Zoetrope (Étienne Jules Marey, 1887)

Chronophotography as a Manifestation of the Pattern Methodology
Part 3: Discussion

succeeds to make the technique independent of its implementation. Mamber makes this point particularly clear in his comments on what was probably one of the first-ever 3D movement capture presentations. Marey called the experiment “Solid Figures in the Zoetrope”. It was an extension of the then popular Zoetrope apparatus which could recreate objects in movement, e.g. a bird flying. The regular Zoetrope did this through strips of photographs mounted on the inside of a revolving cylinder which had slots on its side that allowed the viewer to watch the moving image. Marey developed this device into a machine that supplanted the strip of photos with oil painted sculptures of birds in their actual successive positions of flight. This is in itself quite a sensational deed. But for Marey, the astonishment of the spectators was not much more than a re-confirmation of his general chronographic principle, this time played out in three dimensions and employing a flying bird. Mamber finds it indicative that Marey wanted the viewers to look as much from above as through the slots. “The overhead view offered the breakdown into successive moments of movement – the analysis, as it were. The recreating view through the slots would be the confirmation of the soundness of the analysis – the chance to step back through the experiment, the laying out of the proof.”

This foregrounding of the methodology, in favour of the individual incidents of analysis-synthesis, indeed needs to be emphasised. It is in this foregrounding of practical demonstration that Mamber finds Marey’s unique blend of science and artistry. And he succeeds to make us appreciate those qualities by employing a series of experiments of his own. Thus, this is the perspective in which we should read the time-time diagram of The Killing. Through it, and through his other demonstrations, Mamber transcends some of the traditional methodological boundaries of Cinema studies as a discipline and re-orient it in the direction of the natural sciences. The important thing is that this is not done at the expense of humanistic clarity and insight. On the contrary, by practical exemplification of new concepts and of new ways of seeing, our theoretical understanding is enriched and extended. It offers us a way to peak into the meaning-making processes and to step back and re-evaluate our theoretical points of reference. At the end of this chapter, I will discuss some of the consequences of this re-orientation for the disciplines of Media Studies in general, and for Cinema studies in particular. At this point, I will continue to draw the parallel from the “Solid Figures in the Zoetrope” to the rationale behind the pattern methodology. It will result in an argument that, if indeed there are common arguments and motivations behind the chronographic and the pattern
methodology, the latter provides a solid platform to which Cinema studies can refer, in order to close the gaps to neighbouring disciplines.

Christopher Alexander grounds his arguments for the pattern scheme on the notion that architectural design is an extremely complex and multi-layered social and technical process. Through our known history, societies have mobilized all their expressive powers to sustain and develop their built environments in decentralized ways. It has taken the committed engagement of all citizens to tend to their respective sub-system in order to make each sub-system independent in such a way that it can interact with all other supporting, and supported, sub-systems. In our time, centralisation and specialisation has weakened this massive decentralised commitment. It is in the face of this growing uncertainty that Alexander proposes an open mediating language which can make us appreciate the historically conditioned complexity of our built environment. Alexander makes one of his most compelling demonstrations of the necessity of such a mediating language in _Notes on the Synthesis of Form_. Through the use of a diagram, see Figure 2, he shows how our subjective account of form (F2) in a given context (C1) is inextricably tied up in the language that we use to make sense of it (C2). Alexander’s point is, that it is only through the use of an open and negotiable layer of shared representations (C3) that we, in a constructive way, can come to terms with the discrepancies between our subjective accounts and thereby counter a growing fragmentation of language. The diagram as such evokes key scientific notions about inter- and intra-operational validation. Reflected upon from the perspective of Marey’s insistence on a combined analysis-synthesis approach, it suggests more pointed notions about the parallels between the chronographic and the design pattern methods. The aim of both methods is to extend the shared understanding of our physical surroundings. Both methods employ space-time patterns to account for the interconnectedness of those surroundings, the former down to the micro-level of split seconds, the latter up to the compound macro level of decades. And both methods argue insistently that their resulting imagery is of little consequence if it is stripped out from the methodological context in which it is created. Both methods stress the open-endedness of their results, that the context of use is as important as the resulting imagery.

The correspondence between Christopher Alexander’s proposition to introduce a negotiable mediating language of form, and Marey’s emphasis on the need to keep a reflecting distance to his imagery is the last parallel between the two
imaging techniques I will refer to. The practical usefulness of the two methods, and their eventual interplay, will be tested in future digital imaging applications that claim to be authentic in their accounts of historical processes. Certainly, the traditional cinematographic technique will still be relied upon in the genres of news and documentaries. But when the indexical bond to profilmic events is called into question, and when the fragmentation of historical accounts exceeds what key agencies deem tolerable, the need for techniques for visual authentication and navigational support will become apparent. According to some scholars, the lack of an overall accountability of contemporary media has been an urgent problem for most part of the century. It is in this perspective, in the foregrounding of the documentarist as social commentator and historian, that the social relevance of chronographic techniques will have to be measured.

Analysis of space-time patterns in the contents of media networks

In Stephen Mamber’s presentation of the work and thoughts of Étienne-Jules Marey, it is made clear that Marey’s interests was not constrained to physiological inquiries. The subject of his experiments appeared to be the interconnectedness of society as a whole. “Marey was analysing movement to place it within the context of energy production and expenditure, in other words, of life processes in their totality. Thinking in terms of force fields or matrices of energy would better tease out the complex structures Marey was revealing. Mapping quantities and durations of subtle physical processes was a way to understand how the body (animal and human) and the world worked.” Indeed, the same thing can be said about Alexander and his colleagues, whose pattern-atlas span the whole range of societal processes from Independent Regions to Things From Your Life. And, as I have shown in the chapter about Humphrey Jennings and his colleagues, the British Documentary movement honoured much the same holistic approach. Philip Rosen has shown that Grierson was but one of many intellectuals of the first half of the 20th century who were preoccupied by conceptualising history and by finding a viewpoint from which methodological claims of authenticity could be made.

For this wave, issues often turn on the specifying of possible political and cultural relations between intellectuals and masses as separated social strata (often separated by the very capacity to theorize the masses). Just in the West, in addition to Benjamin, Mannheim, and Lippman, such diverse names as Max
Weber, Lukács, Adorno, and Gramsci begin to indicate the centrality of this problem and the range of approaches to it. Indicatively, most of these theorists were concerned with conceptualising history, which since the mid-nineteenth century had designated a privileged mode of knowing and by the early twentieth was a key site of epistemological problematization. In his inquiry of the position of documentary film within the field of modern professionalized historiography, Rosen points to the ending of the historical account as that which gives it its integrity. “The historian always locates a beginning and an ending that anchor the sequence as a sequence… this explains why there can be no history of the present, but only of the past, why all aspects of history are constructed ex post facto.” The understanding of how anchoring a sequence as a sequence has meaning-making consequences leads Rosen to an argument about how documentary film can qualify as historiographic discourse. “If shots as indexical traces of past reality may be treated as documents in the broad sense, documentary can be treated as a conversion from the document. This conversion involves a synthesizing knowledge claim, by virtue of a sequence that sublates an undoubtable referential field of pastness into meaning. Documentary as it comes to us from this tradition is not just ex post facto, but historical in the modern sense.” It is also from within this tradition the relevance of the contributions of Marey and Alexander has to be measured. Their proposed pattern rendering techniques aim straight at the problem of “anchor[ing] the sequence as a sequence”, to identify and map out recurrent movements that we conceive of as whole phenomenon, i.e. phenomenon that we sense a need to conceptualise visually and verbally. And Rosen’s delineation of what makes documentary qualify as historiography has other strong bearings on the digital networking media of today. His reference to early cinema can readily be transposed to a “preclassical” World Wide Web of today that still has reached few audience groups with the kind of synthesising knowledge claim that Rosen argues for has to be anchored in methodologies of sequenciation. “Consider again the preclassical actuality. (…) It is as if an historian simply presented the reader with fragmentary source documents from a given period, without overt thesis, narrative, or contextualization. Once, however, the document is placed in a context that makes it part of an assertion of meaning from the real, the reader is defined as the rhetorical aim of that significance.”

Today, the need for extended analytical and navigational support in digital media is also forcefully articulated within the social sciences. Indeed, it is one of
the main themes of the sociologist Manuel Castells three volume study The Information Age: Economy, Society and Culture. In the light of the wide acclaim he has received, Castells can be regarded as a writer in the tradition referred to by Philip Rosen, a writer who looks upon historiography as a central societal process largely dependent on the social situatedness of observation. In volume two, entitled The Power of Identity, he discusses the environmentalist movement, its historical emergence, its close ties to science in its overall value system, its role as a social commentator and, ultimately, as a force that will most likely reverse some of the characteristic patterns of the global informational networks as we know them today.

One of the characteristics of environmentalism as an emergent social movement is, according to Castells, "an ambiguous, deep connection with science and technology". To explain the ambiguity of this connection, he quotes Anne Bramwell, "[T]he development of Green ideas was the revolt of science against science that occurred towards the end of the 19th century in Europe and North America." And Castells continues the genealogy, the tracing of the roots of environmentalism: "This revolt intensified and diffused, in the 1970s, simultaneously with the information technology revolution, and with the extraordinary development of biological knowledge through computer modelling, that took place in the aftermath." A second characteristic of the kind of environmentalism that Castells sees as an emergent social force is that its scientific revolt is aimed at a structural transformation of society, a transformation with far-reaching consequences for society’s self-image. In his delineation of these consequences, Castells refers to a fundamental difference in the way information is “anchored” or “grounded” in informational networks. I will come back to this notion of “groundedness”, as it refers directly to the concept of sequenciation. But first Castells central notion of “structural transformation” has to be reflected upon: “Struggles over structural transformation are tantamount to fighting for historical redefinition of the two fundamental, material expression of society: space and time. And, indeed, control over space, and the emphasis on locality is another major, recurrent theme of various components of the environmental movement. I proposed, in volume I, chapter 6, the idea of a fundamental opposition emerging in the network society between two spatial logics, that of the space of flows and that of the space of places. The space of flows organizes the simultaneity of social practices at a distance, by means of telecommunications and information systems. The space of places privileges social interaction and institutional organization on the basis of physical contiguity.” The notion of a fight over
“the two fundamental, material expression of society: space and time” indeed has a strong bearing on the common motivation of Marey and Alexander, to visualize space-time patterns in such ways that they can be shared and interrogated by audiences across the borders of genre and linguistic conventions.

In the two spatial logics that Castells sees emerging in the network society, he identifies environmentalism as standing for locality and physical contiguity while the institutions managing the telecommunication systems employ a spatial logic that builds on long distance control over geographically dispersed processes. Castells makes this split in spatial logic the basis for a fascinating idea about a corresponding split in temporal logic between those managing the systems and those at its margins. Here too, science-based environmentalism, placing itself firmly (but not exclusively) at the margins of the informational systems, has an important role to play. “Alongside space, the control over time is at stake in the network society, and the environmental movement is probably the most important actor in projecting a new, revolutionary temporality.” As we shall see, some of the characteristic traits of this “new, revolutionary temporality” grow out of a spatial transparency, a space-based capacity to simultaneously account for very slow and very fast temporal sequences. But before we look closer on this subtle kind of non-reductionism in space-time accounting, we have to ponder what Castells argues is the opposite of it, his intriguing notion of “Timeless time”. “Timeless time, characterizing dominant processes in our societies, occurs when the characteristics of a given context, namely, the informational paradigm and the network society, induce systemic perturbation in the sequential order of phenomena performed in that context. This perturbation may take the form of compressing the occurrence of phenomena, aiming at instantaneity (as in ‘instant wars’ or split-second financial transactions), or else by introducing random discontinuity in the sequence (as in the hypertext of integrated, electronic media communication). Elimination of sequencing creates undifferentiated timing, thus annihilating time. In our societies, most dominant, core process are structured in timeless time, yet most people are dominated by and through clock time.” This dense and ominous description of the dominant temporal logic of today’s informational systems has to be commented upon before we can return to the non-reductionist temporality of environmentalism.

I have already discussed the concept of “compression” as a key element in the space-time rendering techniques of Marey and Alexander. It is through the act
of compression their space-time patterns of overlap and simultaneity emerge. And it is through this kind of patterns that Stephen Mamber can tease out “discontinuities introduced” in space-time accounts, such as in the film The Killing. On the whole, Castells’ notion of a “timeless time” bears many similarities to how Mamber characterizes some directors of Conceptual Cinema, those whose characters of extreme flatness have to endure situations out of control in environments stripped of their spatial and temporal linkages. And perhaps this is the most constructive way to read Castells’ statement. As an analysis of some of the significant traits of a mindset dominating some of the key institutions of today’s informational networks. Indeed, Castells further discussion makes it clear that the very processes that “induce perturbation” and “introduce discontinuities” are themselves drawn into still larger networks that eventually will transform them. And to be able to grasp this conditionality of “timeless time” we need only go to Castells characterization of that which will eventually take its place, “the new, revolutionary temporality” of environmentalism. Here, Castells builds on Scott Lash and John Urry, who in their Economies of Signs and Space articulate the concept of “a glacial time”, a time that takes an evolutionary understanding of natural processes as its starting point. In Lash and Urry’s original formulation, the notion of glacial time implies that “the relation between humans and nature is very long-term and evolutionary. It moves back out of immediate human history and forwards into a wholly unspecifiable future. (…) I propose the idea that the environmental movement is precisely characterized by the project to introducing a ‘glacial time’ perspective in our temporality, in terms of both consciousness and policy. Ecological thinking considers interaction between all forms of matter in an evolutionary perspective.”

From Castells proposition, that two opposing spatial and temporal logics lie at the core of media innovation, from this proposition follows that the social relevance of the space-time rendering techniques of Marey and Alexander may be very high indeed. My primary aim in this chapter has been to show this, and not to discuss the inner workings of Castells opposing temporalities as such. But to support my arguments about the strong social relevance of space-time pattern techniques, I will make three concluding remarks. The first has to do with the central role played by sequenciation in Castells definition of glacial time. As we see from the quote above, glacial time is not only characterized by encompassing a very long evolutionary time span. Philip Rosen stated, that it is the declared or implied ending point that gives the sequence its meaning and integrity. In that line of thought,
we may find some of the secrets of glacial time in its declaration of a supposed ending point. And Lash and Urry’s words about “a wholly unspecifiable future” can indeed be seen as a radical demand for interpretative openness. Accounts that claim to adhere to this kind of temporality has to show an open-endedness that invites interrogation. As we have seen, this is one of the strong points of chronography, that it can account for a whole range of (conditional) starting and ending points without losing sight of that (which for the time being) is held forth as “the whole”. The demand for open-endedness may also be understood as a demand for non-reductionism, that compression and symbolic abstraction may go far,

Figure 21a. A square mile of Barcelona: Paseo de Gracia, (from Allan Jacobs GREAT STREETS, 1993)
but not further than what the contextual requirements of individual sequences allow for.

The second remark about the social relevance of chronography relates to the “timeless” perspective proposed by Christopher Alexander and his followers in architecture and Computer Science. In the chapter on design patterns in Part 1, I summarized the key characteristics of this temporality, as it is explained in A PATTERN LANGUAGE and in other influential texts. One way to grasp the peculiar “endurance” of recognized design patterns is to reflect upon the massiveness of the human endeavour that (typically) lies behind them. Recurrent patterns of proven value – regardless if they are recognized in our built environments or in computer programs, (or in documentary film) – are those patterns that have been tried, openly interrogated, and accepted by engaged end users, throughout history and/or through an intense contemporary practice. This is one of many possible entry-points for comparisons of the Alexandrian “timelessness” to Manuel Castells’ identification of “glacial time”. It could be developed further with reference to what Castells considers to be “a place”, one of the conceptual cornerstones in his argument about opposing spatial logics. “A place is a locale whose form, function and meaning are self-contained within the boundaries of physical contiguity.” This definition is very close to what Alexander describes as “a neighbourhood”, (qualifying it by highlighting how those boundaries act both as shelter and as points of contact with the outer world, see for example the section “Thematic patterns in CONTOUR” in Part 2). The correspondence between the two perspectives goes even further when Castells ends his chapter “Space of flows and space of places” with an explicit reference to two contrasting patterns of city space. “Thus Allan Jacobs, in his great book about ‘great streets’ examines the difference in urban quality between Barcelona and Irvine (the epitome of suburban Southern California) on the basis of the number and frequency of intersection in the street pattern: his findings go even beyond what any informed urbanist could imagine.” (See figures 19 a-b.) For Castells, the contrast between the two patterns is one of the strongest pieces of evidence he can provide about the two opposing spatial logics. His final characterization of the latter, the space of flows, is that it is “where the space of experience shrinks inward toward the home, as flows take over increasing shares of time and space.” What can be added is that Castells final point indeed can be taken as a starting point for the contemplation of the book A PATTERN LANGUAGE, in which the actual physical contiguity of neighbourhoods is systematically examined.
The third and final remark about correspondences between “glacial time” and “timeless ways” concerns the concept of hypertextuality. I have already suggested that much of the power of the design pattern approach is that its outline of the relation between supporting and supported patterns lends itself to hypertextual representation, regardless of whether this is implemented in print or on the World Wide Web. But how about Castells notion of hypertextuality? In the quote above about “timeless time”, “the hypertext of integrated, electronic media communication” is held responsible for “introducing random discontinuity in the sequence”. This “guilt by association” seems to cast a long shadow over the experimenters of hypertext. But again, Castells is all but ahistoric. What he is typifying in this quote

Figure 21b. A square mile of Irvine, California: business complex
seems to be the same “preclassical” period as Philip Rosen discussed in relation to early documentaries that had not, yet, articulated common points of authorial reference. Castells main line of thought indeed anticipate open, polyphonic hypertexts anchored in glacial time. “[T]he critical matter for the influence of new ecological culture is its ability to weave threads of singular cultures into a human hypertext, made out of historical diversity and biological commonality.” His further remarks on this common task of scientific environmentalism emphasize that its success rests firmly in a common understanding of temporality. Implicitly, his arguments also makes it clear that this inter-disciplinary and inter-cultural effort entails a far reaching linguistic effort, an effort on all our parts to reflect on conceptual boundaries of many kinds. “It is this unity of the species, then of matter as a whole, and of its spatiotemporal evolution, that is called upon implicitly by the environmental movement, and explicitly by deep ecologist and ecofeminist thinkers. The material expression unifying different claims and themes of environmentalism is their alternative temporality, demanding the assumption by society’s institutions of the slow-pace evolution of our species in its environment, with no end to our cosmological being, as long as the universe keeps expanding from the moment/place of its shard beginning.”

Future directions

In this chapter, I have pointed to the parallelism between the rendering techniques of Étienne-Jules Marey and Christopher Alexander. I have proposed that the chronographic technique of Marey can be seen as one possible practical implementation of the design pattern approach proposed by Alexander. In doing this, I have referred extensively to Stephen Mamber who has shown that, in theory as well as in practice, the work of Marey anticipated much of the development in digital imaging technologies that we have seen during the last decades. The parallel to Alexander in this respect, is expressed in the explicit application of his methodology by a wide range of software engineers. To underscore the constructive potential of this perspective of “image-technological innovation”, I will, as a concluding note, refer to the fact that the chronographic method had an even earlier practitioner, to whom Marey often referred, and to whom we can find many references in today’s literature on Computer Science. If we would characterize Marey as a chronographer of paths, and Alexander as a chronographer of the composite patterns that these paths
leave over time, the Frenchman Charles-Joseph Minard can be seen as their common forerunner. This is the graphic illustrator who, among many other socio-technical patterns, mapped out Napoleon’s Russian Campaign, a classical space-time account that mirrors Marey and Alexander in stunning ways (anticipating Marey’s flying bird by warning against the opposite of Alexander’s Independent Regions, see Figures 4 and 18).

Following the trails of Minard’s space-time patterns brings us right up to some of today’s groundbreaking inter-disciplinary imaging experiments. At Carnegie Mellon University, Minard’s war-study has served as a testing ground in the development of an integrated, multimodal instrument for the flexible analysis of complex chains of events. The experiment is reported in a special issue on Multimodal Interfaces in the journal Human-Computer Interaction, “Toward an Information Visualization Workspace: Combining Multiple Means of Expression.” In this article the authors succeed to tease out a whole complementary database through an ingenious analysis of that which must have happened in-between the registrations marked out by Minard. To describe the extended demands on contemporary tools for visual analysis the authors first refer to other methodologies in the same genre: “exploratory data analysis”, “data mining”, “data archaeology”, and “data exploration”. The enumeration of practical requirement which follows this general positioning evokes many of the concepts discussed above. Thus, the example picked for clarifying what such a tool has to accomplish concerns “traffic accident data”: 1. Searching for data subsets (e.g. large cities in 1995); 2. Controlling level of detail (e.g. aggregate costs); 3. Reorganizing data (e.g. by age of driver); 4. Computing new attributes (e.g. individual costs); 5. Detecting important relations and patterns; 6. Communicating the results; 7. Acting on this information (e.g. schedule assignments). Concurrently, similar experiments are carried out at other universities. One of the references in the article on Visualization Workspace leads to a recent doctoral dissertation from the Department of Computing Science at Gothenburg in which the Minard image plays a key role. In Exploring Information: Extended Expressiveness of Dynamic Queries, Christopher Ahlberg makes the Minard image the starting point for an innovative application of the slider as an interface device. (The subject matter of the demonstration database of the thesis is quite interesting in this context, since it covers basic data on 2,000 feature films.) What Ahlberg does is to turn the slider device into a general purpose control mechanism with which a multitude of dimensions of a database can be simultaneously visualized. In the subsequent devel-
opment of this experimental system, Ahlberg explain that the aim of the time based “wide-screen quality” provided by multidimensional visualisation is “to identify key trends, patterns, and anomalies while developing novel and useful bioinformatics applications. (...) The vast amount of data generated in these experiments quickly becomes hard to manage and analyze in a timely fashion—especially in complex experiments across multiple chips. Specifically, researchers must be able to access, analyze, and publish critical information from microarray analysis.”

The quote is taken from a presentation of the commercial application of the system and the great interest for this networked application, shown not least by medical and pharmaceutical researchers and corporations, is a clear confirmation of the increased need for flexible multidimensional visualization tools.

Adding pieces to the historical puzzle of image-technological innovation is not just a question of attributing credit to innovators who has not yet received the acclaim they deserve. There are other strong reasons to map out the evolution of imaging techniques that claim to have more extensive indexical bonds to their subjects than those asserted by their competitors. When discussing (the future of) documentary genres which claim to adhere to rules of professional historiography, the importance of being able to qualify emerging technical prerequisites for authentication becomes evident. In this chapter, I have showed that sequenciation, the employment of new temporal paradigms, can play an integral part in the kind of shared authentication that ultimately legitimises new imaging technologies. Historical documentaries can be seen as one of the genres that will be hardest hit by what Castells identifies as non-transparent breaks in temporality and the homogenising fragmentation it results in. On the other hand, if we are to believe Castells, Altman and many others, this will create a social urge for documentary films that, by clinging to the rich formal heritage of the genre, succeeds to renew the documentary language and to meet audience expectations.

According to Philip Rosen, the profusion of indexical signs, digital as well as non-digital, may indeed pave the way for a new awareness for documentary values. “Postmodernist theory, analysis, and artistic practice are constantly reminding us that there have been significant changes in the balance between document and sequence. But however much the fragmentary and often ephemeral experience of representation in contemporary culture is emphasized, it is not at all clear that a shift in the norm of the sequence so radical as to disrupt the fundamental structure of ordering the real on general and synthetic principles has been achieved. … [T]he
profusion of indexical signs may make the documentary mode and the historicity it embodies not less but more pertinent to understanding contemporary culture and politics. Much of the same confidence in the endurance of historically grounded genres is expressed by Manuel Castells when he contemplates the future encounters between centrally controlled communication systems and locally based networks. “Whoever, or whatever, wins the battle of people’s minds will rule, because mighty, rigid apparatuses will not be a match, in any reasonable timespan, for the minds mobilized around the power of flexible, alternative networks. But victories may be ephemeral, since the turbulence of information flows will keep codes in a constant swirl. This is why identities are so important, and ultimately, so powerful in this ever-changing power structure – because they build interest, values, and projects, around experience, and refuse to dissolve by establishing specific connection between nature, history, geography, and culture.”

Rosen expresses a sense of confidence about the role of the documentary in an increasingly blurred and cacophonous media landscape. Similarly, Castells conveys a belief that, as with other value-systems, documentary values of presence and authenticity are ultimately determined by local audiences in their ongoing redefinition of local and global identities. To my mind, both Rosen and Castells confirm the continued centrality of the documentary project, a project which is as much a guide to history as it is an inquirer of the present and an innovator of language.

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1 My appraisal of the importance of an audience/user awareness is clearly expressed in the Introductory part where I also discuss, in passing, how the pattern design methodology has been successfully implemented in a range of neighbouring disciplines. In the following, more systematic, discussion on interdisciplinary requirements for an analytical framework for documentary film, I will detail what I here summarize as “an interdisciplinary openness” in qualities such as formalisms that provide entry points for neighbouring conceptual frameworks in ways that may mutually complement those formalisms (formal use of synonyms, formal accounts of evolution of analysis etc.).

2 Castells 1996: 3-4, 25-28. While admitting to an inescapable level of uncertainty inherent in interdisciplinary studies that involve questions about current trends in information technology, Castells refers to “a methodology of triangulation” that bear strong resemblances to the criterion of noncontradiction, presented in my section “The principle of noncontradiction”. “I am aware of limitations in lending credibility to information that may not always be accurate, yet the reader will realize that there are numerous precautions taken in this text, so as
Part 3: Discussion

to form conclusions usually on the basis of convergent trends from several sources, according to a methodology of triangulation with a well-established, successful tradition among historians, policemen, and investigative reporters. (Castells 1996:26.)


5 Page 192.

6 See pages 116, 146, 258 n 76.

7 Nichols 1991: 179. Recently, the relation between the point-of-view device, as used in the classical Hollywood style, and the deictic gaze, i.e. our ‘ability to follow other people’s direction of gaze” has been discussed by Per Persson in Understanding Cinema: Constructivism and Spectator Psychology (Ph.D. diss. Department of Cinema Studies at Stockholm University, 2000). His enumeration of eight “forces” that explain some of the intricacies of the traditional POW-device provides good grounds for a formal description, as a compositional pattern, of the device that Jennings and others tried to extend, by breaking away from, in the 1940’s.

8 Ibid. 179-80

9 Ibid. 178.

10 Ibid.

11 Ibid. 180.

12 Burch 1990: 164.

13 See footnote 1 on page 175 for additional comments on the “Cinema of Attractions”.

14 The notion that a pattern has emerged against something touches on an aspect that might look like a paradox but that, to my understanding, is at the heart of pattern dynamics and has to be pondered when trying to understand when and how patterns emerge. When Christopher Alexander, in Notes on the Synthesis of Form, introduce the idea of making symmetries visible, he starts off by pointing out that which is the ultimate reason for this quest - irregularities. “[A]n irregular world tries to compensate for its own irregularities by fitting itself to them, and thereby takes on form. D’Arcy Thompson has even called form the ‘diagram of forces’ for the irregularities. More usually we speak of these irregularities as the functional origins of the form.” (Alexander 1994: 15.) Recently, James O. Coplien and Liping Zhao have further clarified this dialectical process with reference to Group-theory and symmetries, also taking account of Christopher Alexander’s own additions to his theory of patterns, which they characterize as a certain way of “building with centers”. “The process for building with centers is a simple process of structure-preserving transformations. One finds the weakest center in a whole and strengthens it by adding new centers that make it more whole. If the overall result is more whole, then the process iterates to the next center. Each of these
transformations increases wholeness while preserving the structure of the whole, though there are adjustments in the details. A given transformation can clean out a center that has become too messy, but the overall structure is preserved.” James O. Coplien and Liping Zhao “Symmetry Breaking in Software Patterns”, in Springer Lecture Notes in Computer Science, 2001, accessible at: http://www.bell-labs.com/user/cope/Patterns/Symmetry/Springer/SpringerSymmetry.html (2001-10-11)

15 For a background to the Mass Observation project, see the section “Context - the Griersonian community of documentary filmmakers” in Part 2.


17 Another way to grasp this potential for user-oriented exchange between different kinds of domain experts is to recognize that different kinds of users contribute different kinds of competence. It is the open, non-technical language of patterns that gives the approach its unique possibilities to promote such inherently interdisciplinary dialogues.


19 See footnote 80 on pages 91-92.

20 See the section “Personal diary – a broadcast: Erik, a selfwilled life” in Part 2 for a background to the term “documentarist-as-facilitator”.

21 “What can Nordic countries learn from Canada?”, speech given by Ed H. Zwaneveld, Technical Director, National Film Board of Canada, at The Fifth Nordic Film/TV Union Conference, Stockholm 7-9 May 1999. Two of the overhead displays he presented are important to quote in this context: “The National Film Board of Canada Toolkit: The documentary: gives a voice to people and is their living history. Multimedia: engages and reinforces learning, enables e-commerce. Animation: lets objects speak. Features: simulate experience and enable us to dream a little. Technology: enables smart and creative capture and access to content.” “A High-Tech Support Infrastructure: Statistics Canada: Estimates that about 60% of the software used to create high-tech special effects for American films has been developed by Canadians, such as Discreet and Softimage of Montreal, and Alias/Wavefront of Toronto.” A lecture given by Michael Century from the NFB, at the Royal Institute of Technology later in December (1999-12-02), detailed the artistic, cultural, and economic success story of the Canadian computer graphics industry.

22 In Appendix 2, “Non-fiction film on the Web”, I address some of the other influential waves of documentary film in terms of candidate patterns. Here too, Jenifer Tidwell provides the backdrop for the discussion about, among other things, “docu-soaps” and the web as a distribution mechanism for new kinds of documentary experiments.


25 Ibid. 11.
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26 See the section “Formal patterns in A Random Walk and Contour” in Part 2 for a discussion on Murtaugh’s visual support for navigation, 156-159.
28 See the section “Tracing the reception of generic patterns” in Part 1.
29 See the section “Chronicle of a Community, a broadcast and a website – Nerts 2.0.1” in Part 2.
30 Björn Eiderbäck Object Oriented Frameworks with Design Patterns for Building Distributed Information Sharing (Dissertation, Stockholm University, Department of Numerical Analysis and Computing Science, 2001), 54-55.
34 In his chapter on Theory and Experimentation, in American Genesis, Thomas P. Hughes comments on the limited role theory played for many of the American inventors in the early twentieth century. “Some scientists arrogantly ridiculed the empirical approach of the so-called Edison hunt-and-try method at the same time that they reasoned from anachronistic theory. … Scientists unfamiliar with invention and development often denigrated this empirical approach, not realizing that to hunt-and-try was to hypothesize and experiment in the absence of theory. Thomas Midgley, the chemist and inventor responsible for the tetraethyl-lead additive for gasoline, remarked that the trick was to change a wild-goose chase into a fox-hunt.” Hughes 1990: 49-52.
36 Edward R. Tufte The Visual Display of Quantitative Information (Connecticut: Graphics Press, 1990). In Bildets oppløsning – Filmens bevegelse i historisk og teoretisk perspektiv (Ph.D. diss. at the Department of Cinema Studies at Stockholm University) Trond Lundemo discusses Marey’s contributions vis-à-vis filmmakers such as Dziga Vertov, Jean Epstein, Orson Welles, and Jean-Luc Godard, artists that all evoked a self-reflective stance on the part of the spectator. This is a theme that will be elaborated below in relation to Stephen Mamber’s analysis of what he terms “conceptual cinema”.
38 Mamber 1998:2, p. 15.
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50 Mamber 1998:2, p. 11-12, my italics.
51 For a summary of how Béla Balázs identified the montage and the close-up as two of the characteristic devices that separate the medium of film from one of its predecessors, the theatre, see Andrew 1976:85-86. Walter Benjamin adds slow-motion to the set of devices that turns the experience of watching a film into a revelation of what Benjamin calls “the optical-unconscious”, in “Konstverket I den tekniska reproduktionens tidsälder” [“Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit”, 1936] in Astrid Söderberg-Widding ed. Sätt att se. Texter om estetik och film (Stockholm: Fischer & Co, 1994).
54 Mamber 1998:2, p. 4.
56 Mamber 1998:2, p. 16.
57 Mamber 1999, p. 135.
58 Ibid. 134.
59 Ibid. 135.
62 Alexander 1994: 76. The adaption of the Minard map, first done by Étienne-Jules Marey, is here further adapted for the World Wide Web by Kathy Scott, University of Texas in Austin, a revision that makes use of the hypertextual possibilities of the environment in an exemplary way, since clicking on the different battlefields brings up concise information about what came to pass at each site. http://www.ddg.com/LIS/InfoDesignF96/KScott/.
64 Mamber 1998:2, p. 6, my italics.
65 Gilles Deleuze Cinéma 2: The Time-Image (Minneapolis: University of Minnesota Press, 1989), 17, my italics,.
66 Deleuze 1989: 23. A straight-forward interpretation of the Marey camera, according to the logical conjunctions it builds upon, would be that it captures: a regular series of discrete “and” images conditioned by a “while”. A similar interpretation of the pattern method might reveal that the camera for each pattern captures: a pair of contrasting discrete results of (long) series of regular “and” images within conditioning “while” and “if” clauses. (The if-condition provides for the two contrasting drawings used to visualize “the requirements” and “the solution”.) Such an interpretation of the language as a whole would have to go on
to make clear that these individual patterns are not alternating in an eternal circle of requirement-solution appearances. The key insight of the language is that it is only when the lower level patterns move in directions closer to those of “their solution”, that the higher level patterns made up of them move in the same directions. Thus, one possible characterization of the original application of the pattern language would be “hypertextual chronographics”.

59 See the list of film titles on page 101 and footnote 6 on page 176.
60 Rosen 1993:80, my italics.
61 Rosen 1993: 70.
62 Rosen 1993: 71, my italics
63 Rosen 1993: 76-77.
66 Castells 1997: 123.
67 Ibid.
68 Ibid. 124.
69 Ibid. 125.
71 Castells 1997: 125.
72 I have deliberately abstained from referring to one of Alexander’s major books, The Timeless Way of Building, (New York: Oxford University Press, 1979), in which he lays out the philosophical background to his work. I am convinced that this poetic and evocative treatise can reveal many new insights into the parallels between the “timeless way” and the “glacial time” discussed here. However, from my own perspective, the two more practically oriented works I have referred to throughout my thesis, have proved to be thought-provoking enough. For further references to the philosophical background to Alexander’s work, I can only point to footnote 14 on page 254 and to the article from which it quotes.
73 Castells 1996: 423.
75 Alexander 1977.
76 Here, a quick flash-back to Hayden White’s essay about “The modernist event” (White 1996, referred to on page 89, footnote 61) can be made. It turns out that White also centres his attention on the “fluid” quality of events, a fluidity that calls for radically new techniques of representation. “The ‘meaning’ of events remains indistinguishable from their occurrence, but their occurrence is unstable, fluid, phantasmagoric – as phantasmagoric as the slow-motion, reverse angle, zoom, and rerun of the video representations of the Challenger explo-
Notes

This is not to say that such events are not representable, only that techniques of representation somewhat different from those developed at the height of artistic realism may be called for.” (White 1996: 29.) With reference to Eric Santner, White identifies the dangers of “narrative fetishism” and points to a historically conscious way of applying modernist techniques of representation as a possible remedy; Eric Santner “History Beyond the Pleasure Principle”, in Saul Friedlander ed. Probing the Limits of Representation (Cambridge: Harvard University Press, 1992), 146. “Modernist techniques of representation provide the possibility of de-fetishizing both events and the fantasy accounts of them which deny the threat they pose, in the very process of pretending to represent them realistically. This de-fetishizing can then clear the way for that process of mourning which alone can relive the ‘burden of history’ and make a more, if not totally realistic perception of current problems possible.” (White 1996: 32.)

77 Castells 1997: 127, my italics.
78 Ibid. 126.
80 Ibid. 133.
81 Ibid. 133.
84 Rosen 1993: 89.
85 Castells 1997: 360.
Summary

The aim of this study is to propose a conceptual framework for the analysis of historical programming in digital media. There is a strong need to articulate common vocabularies between media practitioners, researchers from different fields of historical inquiry and end-users of documentary accounts. The elements of the framework are derived from the fields of genre theory, architecture, and computer software design. It adheres to the pattern language approach proposed by Christopher Alexander, a methodology for cooperative architectural design that has been successfully applied to the design of computer software.

The use of the framework is demonstrated in a series of explorations of documentaries that exemplify different periods of production and different techniques of research, production, distribution, and exhibition. The examples range from the films of Humphrey Jennings, produced in the 1940’s, to current examples of digital documentaries produced and exhibited on the World Wide Web. A collection of 43 candidate design patterns are identified that characterise the different modes of production and technologies employed. For each example, a small set of characteristic patterns of composition are discussed and some pertinent shifts in practical application of new techniques for recording, editing and navigating are briefly discussed. The last example demonstrates the application of design patterns as a tool for design dialogues with end-users in an ongoing project at CID (Centre for User-oriented IT Design, Royal Institute of Technology).

The hypothesis that pattern languages for documentary analysis and design can offer new practical insights into the emerging digital media of moving images is assessed in the concluding part of the study. First, the characteristic patterns identified in the examples are discussed in relation to recent contributions to the design of human-computer interfaces (HCI) and to genre-theory. In respect to such an interdisciplinary application, the study concludes that, although there are definite prospects for the proposed framework to bridge neighbouring disciplines, one limitation of the design pattern tradition lies in a reluctance to account for conflicting user expectations. In the last chapter, the pattern language method, and an early technique for motion capture that mimics it, are discussed against the broader socio-political context of current sociological research. Here the pattern approach, and chronographic techniques in which it can be applied, are proposed as means for documentary producers to meet critical audience demand for authenticity in history programming.
Overview of candidate patterns

Goal of the overview
The goal of this overview is to give a concise summary of the study’s results, in terms of candidate patterns found in the example films. The challenge of the study has been to apply the design patterns approach, developed within the fields of architecture and computer science, to the study of documentary film. Therefore, the study may be relevant to at least three different audiences. Since documentary film also has connections to many other fields of study, such as anthropology and history, I have felt that a short compilation of results might serve as a complementary entry point for readers with other backgrounds than Cinema studies.

After a short disclaimer, the overview presents an example pattern and a language-set from the field of Human Computer Interaction (HCI). This is done in order to show what a design pattern can look like from a field in which many practitioners and scholars have joined to identify and discuss how they reason when they design an HCI artefact.

In the compilation from which the HCI example is obtained, there is a total of 60 patterns described. All of them, except seven that are only identified as names, are depicted in the established descriptive format exemplified here. However, in this study, although 43 candidate patterns are identified, only two of them are developed according to the prescribed format. This is due to the fact that design patterns are not meant to be identified and described in isolation from practical work. As a scholar, I have a 15 year background in practical video production as a backbone for my research. But since I have met no other documentarist, or documentary scholar, who have thought along the lines of design patterns, I have had to limit my task to identifying the contours of what I have understood to be candidate patterns. And then to go ahead with at least two more developed descriptions, Public point-of-view and Time-layered building, which follow directly after the example from HCI.

After the two more developed pattern descriptions, I have listed all the candidate patterns under the heading of each example film project in which they have been identified. The list has its own short introduction. What can be said here, is that the grouping of patterns is essential, since it suggests which patterns that might work well together. The grouping amounts to an outline for what is called a pattern language, a set of patterns, typical for a certain domain of practice. But the act of grouping also foregrounds the difficulty, and the importance, of understanding how
pattern support each other. This is the main focus of the discussion performed in chapter 3.1 Interdisciplinary prospects for pattern based analysis. In Appendix 2, Non-fiction films on the web, some of the canonised “modes of representation” identified in documentary film history (Expository, Observational, Interactive, Reflexive) are further discussed from the point-of-view of design patterns as a practical tool for identifying emerging “genres” within the documentary project.

Disclaimer – what the list of candidate patterns is not
The design pattern approach has been developed as a means to capture experiences from practical solutions to design problems, i.e. solutions that have proven their value over and over again in their respective field of application. But “solutions” can never be reduced to a series of descriptive and interpretative acts. Patterns identified remain to be a conceptual tool – they are of little help outside the realm of practical work in which they can be remodelled, regrouped, and readjusted.

Again, I want to emphasise that the two patterns presented in the developed form, and the list of 43 candidate patterns described in one or two sentences (but with a fuller context in the thesis), are only candidate patterns. Although I have received important feedback from colleagues, the symmetries described are not, yet, analysed in any joint research or production effort. What I have wanted to propose, with the list as a whole, is that such an effort could be quite meaningful, even if it would alter the wording and the grouping of the list quite a bit.

An example HCI pattern and language-set
from the Common Ground collection
The pattern description and example language-set below is quoted (to be permitted: with kind permission of the author) from the influential compilation Common Ground, a Pattern Language for Human-Computer Interface Design, written by Jennifer Tidwell. The pattern is discussed in some detail in my thesis-chapter “Interdisciplinary prospects for pattern based analysis”. The reason it is quoted here is that I would like to give the reader the opportunity to read, and ponder, the full description of it. It exemplifies one of the most inclusive patterns of the compilation as it belongs to a group that describes how the content of an artefact unfolds before the user. Below the pattern description is a set of complementary patterns, a language-set, that the author has found typical for another of the high level patterns, Narrative.
Navigable spaces

Examples:
* The WWW and other hypertext systems
* Myst
* Museum exhibit in a set of physical rooms
* Set of applications in a suite, as with the PalmPilot or a network computer

Context: The artifact contains a large amount of content – too much to be reasonably presented in a single view. This content can be organized into distinct conceptual spaces or working surfaces which are semantically linked to each other, so that it is natural and meaningful to go from one to another.

Problem: How can you present the content so that a user can explore it at their own pace, in a way which is comprehensible and engaging to the user?

Forces:
* The user wants to know where they can (or should) go next, and how it’s related to where they are now.
* The user wants to be able to choose where to go next.
* The user doesn’t want to get lost.
* The concept of information spaces is a natural one for people to think about, both because it mirrors the real world and because the WWW is so commonly understood.
* It’s delightful to explore a new place, where the user doesn’t necessarily know what’s “around the corner.”

Solution: Create the illusion that the working surfaces are spaces, or places the user can “go” into and out of. Start out with at least one top-level or “home” space, to which the user can easily return (Clear Entry Points). In each space, clearly indicate how you get to the next space(s), such as by underlined text, buttons, images of doors, architectural features, etc. Use the spatial locations of these links to help the user remember where the links are. Provide a map of how the spaces are interconnected (Map of Navigable Spaces), preferably one that allows the user to go directly to the spaces represented on the map. Make sure that the user can easily...
retreat out of a space (Go Back One Step) or return to the home space (Go Back to a Safe Place).

The user will build a mental model of the content from the structure of the Navigable Spaces. Therefore, construct the spaces and their interconnections to mirror the model you want to present (which may not be the same as the actual underlying data structure). Chains, trees, and star patterns are common ways to structure Navigable Spaces (see illustration below); they are easy to understand, visualize, and navigate, and they can contain rich content.

Resulting Context: As pointed out above, Map of Navigable Spaces should be one of the first patterns you deal with, even if you explicitly choose not to use one; the same for Go Back One Step and Go Back to a Safe Place. To help show where the links are in the spaces, you can use Pointer Shows Affordance; to give additional information about where they go, use Short Description.

People using the WWW tend to depend upon their browser's Interaction History (the links you've most recently visited, in chronological order) to get around. Not surprisingly, they also depend upon their Bookmarks to keep track of places they want to go back to. These two patterns might be especially important in any large or unbounded set of Navigable Spaces, particularly if a map is impractical.

When you're dealing with power users, seriously consider the value of displaying more than one surface at a time, perhaps using Tiled Working Surfaces. It's often good to provide the user with the option of being in at least two or three spaces of their choice, especially if a user is likely to be jumping between spaces frequently. This does increase the user's cognitive load, though, so it may not be appropriate for simpler artifacts that require short learning curves.
Notes: With games, part of the fun is in figuring out where you are and where you can go next, so maps and obvious links would actually reduce the user's fun. In a way, the WWW is similar – who could ever make a map of the WWW anyway? – but, of course, not everyone uses it for fun.

Notice that chains are structured similarly to Step-by-Step Instructions, trees to Hierarchical Set, and stars to Central Working Surface. All three of these archetypes have very strong, simple geometric properties; they probably warrant further exploration.

An example language-set that supports the high level pattern Narrative
In her holistic (top-down-top) way of applying the pattern approach to HCI, Jenifer Tidwell uses the word “primary patterns” to indicate that they are high-level pattern that are supported by lower level patterns (which, incidently, in other applications are seen as “the primary patterns”). With this remark in mind, her own words about how high-level patterns are supported by their own “languages” can be pondered. “Each primary pattern tends to use certain other patterns more than others; they are loosely grouped together here as sub-languages.” Note also that Navigable spaces, quoted below, is just one of the ten sub-languages suggested in Jenifer Tidwell’s exemplary collection.

Navigable spaces
Map of navigable spaces, Clear Entry Points, Go Back One Step, Go Back to a Safe Place, Interaction history, Bookmarks, Pointer shows affordance, Short description, Disabled irrelevant things, Progress indicator, User’s Annotations.
Two candidate patterns identified in the thesis

Public point-of-view

Examples: The sequence of reverse angle, point-of-view shots in the concert scene of *Listen to Britain* (Jennings, 1941); Series of photographic accounts in Picture Magazines and photojournalistic exhibitions that parallel each other by depicting spectators of public events as a collective.

Context: The emergence of cooperative methods for camera recording and image presentation in the Picture Magazines and documentary films of the 1930’s and 1940’s.

Problem: A strongly editorialised photo-journalism in newspapers and a general escapist style in foreign and domestic cinema left out, or glossed over, urgent social issues dealt with in contemporary literature and art. Photo-graphers felt imprisoned in strict prescriptions for image composition and montage that resulted in a hero-centred subjectivity.

Forces: Experiments in literature and art with new subject matter and new compositional devices that transcended the individualistic notion of subjectivity had been met with approval by influential audience groups.

Photographers and filmmakers working outside the studio systems embark on experiments that bring in new subject matter and translate patterns of composition from art and literature into photographic and cinematic equivalents. To reach new audiences, by providing new ways of audience involvement and identification, is one of the explicit aims of the filmmakers.

Technicians and assistants of many kinds facilitate compositional experiments by making cameras more mobile. Governmental agencies provide the financial and administrative infrastructure by creating production units open for experiments with new formats suitable for public relation issues.
Editorial staff of magazines and film production units, cinema audiences, magazine readers, sponsors of magazines and film producers, critics - all these diverse user groups express a basic sympathy for what they find to be a more authentic style than what they have become accustomed to.

Solution: Photographers start to move outside the paths prescribed by traditional rhetorical norms to record more spontaneous accounts of events of public interest. The traditional A/B/A pattern of point-of-view shots is extended by aligning series of such shot-sequences taken from opposite angles to establish the sense of a co-presence with the audience/readers of the finished artwork.

Resulting context: Public point-of-view is one of many compositional devices that facilitated the making of films addressing social issues for an audience invited to involve themselves as a collective of citizens. Together with cinematic devices such as Associative montage, Sound overlap, and Musico-spatial editing it helped articulate a cinematic style which broke with the ruling escapist cinematic styles of the 1930’s.

Notes: This is a pattern of composition in documentary film which is originally identified by Bill Nichols (Nichols, REPRESENTING REALITY, 1991, page 179). The definition is written in a way that foregrounds the historical context and emphasises the oppositional character of the social forces that trigger its creation. The context of the definition is the doctoral thesis of the author in which the pattern language approach is presented as a means for closer exchange between the many divers disciplines that use and study documentary film.

Comments to: aakew@nada.kth.se
Last modified June 1, 2001
The following description of Time-layered building is an elaboration of a pattern identified in the thesis’ chapter about The Cyber Yard project at CID.

**Time-layered building**

Examples: Architectural reconstructions in 3D environments arranged in elevated layers that represent a succession of time periods, as in the time-layered Berlin of Joachim Sauter’s and Dirk Lusebrink’s *Invisible Shape of Things Past* (http://www.artcom.de, select “Projects”); in the Active Worlds universe *Cyber Yard* (http://www.nada.kth.se/cid/aakew/cyberyard.pdf); and in the Active Worlds world *Klara* (a world under construction to celebrate the upcoming 750’th anniversary of the City of Stockholm).

Context: Educational and cultural settings that invite visitors to interactively navigate through a series of historical architectural reconstructions.

Problem: When the slow and complex processes of workplace and/or city redesign is to be accounted for in 3D media environments, interactive devices such as walk-throughs and fly-throughs can be used to give the visitor an understanding of each relevant time period of the environment. However, placing representations of later, or earlier, time periods adjacent to each other, or integrated into one composite representation, threatens to break the sense of spatial coherence of each environment, thereby making navigation and interaction more cumbersome. Not making a clear spatial separation between representations of time periods may also result in conflicts between how different visitors want to interact with the individual representation.

Forces: Reconstructions of built environments in interactive 3D media applications have to reflect the spatial relationships of the settings they depict in order to give visitors a rich and accurate experience as well as a sense of being able to navigate unobtrusively through the reconstruction.

3D reconstructions use building techniques for compressing and stylising in order to highlight what is important and relevant. They also supply interactive support for traversing and investigating the reconstruction. A precondition for the de-
sign of an interactive reconstruction however, is that it does not break with the principles of spatial coherence that lend the design its credibility.

It is difficult to smoothly animate complex spatial changes over time with current 3D techniques. What can be done however, with existing techniques (and with moderate economic resources), is to render successive reconstructions in a step-by-step manner (month-by-month, year-by-year, decade-by-decade etc).

If different (groups of) visitors in a shared 3D environment have different interests as far as selecting a specific historical perspective on a certain part of the reconstruction, and if the historical renditions of that part is not separated in space, but programmed as a local animation, then there has to be some sort of negotiation between the visitors about what to inspect and in what order.

To invite visitors to an arrangement of layered reconstructions, between which they are free to move, is an alternative to presenting the metaphor of a composite environment in which history is compressed without any clear reference to the spatial whereabouts of its successive representation.

A time-layered reconstruction is probably easier to plan and build for the kind of team that usually works with architectural 3D media applications than reconstructions in which the passing of time is animated in ways which do not employ a consistent space-time metaphor.

As the time-layered arrangement adheres to conventions employed in for example geological, archaeological, and historical presentations, it may also prove to be easier to navigate for persons not familiar with conventions for 3D navigation and interaction.

Solution: Present the entry points to a series of reconstruction as if they were layered on top of each other. The presentation could emulate the entrance to a museum in which the successive floors hold the objects and stories of successive centuries. Unlike museums however, the 3D rendition can have (virtual) elevators and stairways at all relevant points of historical inquiry.
Resulting context: By providing a recognizable metaphor for navigating the time dimension, 3D environments may become accessible for schools, workshops, and offices where visitors are invited to construct and/or alter scenarios that depict their everyday surroundings of tomorrow in more or less daring ways. As such project are dependent on contributions from many, relatively autonomous sources, they would probably need the support from institutional patterns such as Community as distributor, Media team as coordinator, and Director as catalyst.

Notes: This is a design pattern for shared 3D environments identified within the Cyber Yard project at CID, a project in which the tradition of documentary representations has been one of many sources of inspiration. Since the pattern concerns a technical environment that is just about to reach new levels of popular acceptance, (from being a game-oriented setting into becoming a more general purpose presentational environment in museums and schools), the definition is written in a way that tries to relate the compositional and narrational considerations to a social use that is sufficiently broad to trigger its creation. The context of the definition is the doctoral thesis of the author in which the pattern language approach is presented as a means for closer exchange between the many divers disciplines that use and study documentary film.

Comments to: aakew@nada.kth.se
Last modified August 29, 2001
A list of all candidate patterns identified in the thesis

The list summarises chapter by chapter, the 43 candidate patterns identified in the seven documentary projects examined in the thesis. Four of them are institutional patterns I have derived from the Documentarist-as-facilitator tradition and four others are institutional patterns derived from principles guiding the project leadership of the M.I.T. MediaLab (in italics).

To emphasise that the short comments are certainly not intended to be read as definitions, they are written in a way open to deviating interpretations and with references being made between the individual comments. The goal is to show that the method applied may indeed grasp some crucial points of interest common to documentarists and to artisans of digital media.

I fully agree with Jenifer Tidwell when she points out that Guidelines and Rules of thumb are important to read and reflect upon, but that they neither explain why certain practices work well together nor guide us as to how these practices can be remodelled. It is in this context, as a bridge between quick how-to-manage instruction and detailed design histories, the pattern approach may help to capture essential design activities which tend to solve certain reappearing design problems.

The British documentary movement – Humphrey Jennings

Poetic imagery 112, 115, 209, 221-222
Like the still photographers Henri Cartier-Bresson and Bill Brandt, Humphrey Jennings found poetry in the ongoing life around him, and managed to capture it within the frame of the single sequence.
Public narrator 112, 115, 209, 210
Some of the narrators around are public, like those of the marketplace and the radio, and they can heighten the sense of common interest in the sequences they comment.
Public music 112, 115, 209
If there is music played along the paths passed by the camera, it too can foreground the values shared by its listeners.
Appendix 1

Workplace music 113, 115, 209
When music is played at the workplace, it both receives and gives new meaning to the work depicted.

Public point-of-view 70, 112, 115, 199-205, 209-210, 222
Aligning the camera’s view with not just one person, but with many, may reveal more of the multi-layered meaning of public events.

Associative montage 112, 118, 209, 221-222
Editing that reveals the physical and psychological causality of unfolding events can be transcended by montage that reveals embedded meaning.

Sound overlap 112, 115, 201, 209
Editing sound so it anticipates subsequent modes, vistas, or events not yet disclosed, may further reveal underlying threads of meaning.

Musico-spatial editing 112, 115, 201, 204, 209
Music can be edited so it enters into a dialogue with corresponding rhythms, harmonies, and melodies of the unfolding physical world, and vice versa.

Recording reconstructed events 112, 115, 209, 211, 221
Profilmic events may be reconstructed for the camera if it does not break with the sense of authenticity the documentarist wants to convey to his or her final judge, the audience(s).

Intertextual reference 114, 115, 209, 222
Like music, the languages of architecture, painting, and literature may extend the language of documentaries.

Contemporary documentaries

ERIK, A SELFWILLED LIFE

Documentarist-as-facilitator 118, 119, 134, 210
From time to time in the history of the documentary, filmmakers have seen their role more as facilitators of movements in society than as impartial interpreters, elevated above the conflicts of current affairs.

Director as catalyst 119, 210, 222
In these cooperative projects, the role of the director has depended more on giving inspiration and guidance to all persons involved than on directing conclusively the team put at his or her disposal.
Media team as coordinator 119, 210, 222
Correspondingly, the team members responsible for the individual project act as much as coordinators of the project as practitioners of the different skills involved.

Community as distributor 119, 210, 222
These kinds of film have circulated within the communities of origin in quite different ways than the films of the traditional marketplace.

Cameraman acting on camera 119, 209, 222
The more accessible and dependable cameras have become, the more the cameraman himself can entered the picture, and the narrower the gap can become between viewer and cameraman.

Cameraman talking to the camera 119, 209, 222
When the cameraman enters the picture, s/he too may talk directly to the viewer, and to those s/he meets.

THE DAY AFTER TRINITY
Integrative use of expressive forms 124, 130, 211, 222
Recompiling a film-based documentary on a CD-ROM or DVD disc gives the producer the opportunity to integrate a wealth of new material in the form of spoken and written words, drawings, stills, and complementary footage that did not warrant its place in the original film.

Explicit intertwining of chains of events 124, 130, 211, 222
If explicit references between (seemingly) separate chains of events are made in a non-reductionist way, supported for example by interactive examination, it may widen the scope of implicit references open to the viewer.

Explicit declaration of interpretative problem 124, 128, 130, 211, 222
If the interpretative problem(s) of a project is declared in a distinctive way, it too may widen the scope of implicit references open to the viewer.

Cast of characters 130, 211, 222
Making the biographies of the characters involved in a documentary interactively accessible may provide new clues and revelations for the viewer.

Glossary 130, 211, 222
The same goes for supplying a richer context for interpretation of the words and phrases used in the project.
Appendix 1

OUR SECRET CENTURY
Integrative use of expressive forms 127
See above.
Explicit intertwining of chains of events 128
See above.
Explicit declaration of interpretative problem 125-126
See above.

NERDS 2.0.1
Integrative use of expressive forms 130
See above.
Explicit intertwining of chains of events 130
See above.
Explicit declaration of interpretative problem 130
See above.
Cast of characters 130
See above.
Glossary 130
See above.
Website extends documentary broadcast 131
Publication of key passages from the original material on the World Wide Web can raise public interest before broadcasts and keep audiences attuned after the airing.

Evolving documentaries
CONTOUR and A RANDOM WALK
Provide for transparency 134, 212
Making pre-competitive resources, such as code-fragments and design rationales, accessible to the public is more rewarding for the originators than keeping them secret.
Work bottom up 134, 212
Making functional modules small and autonomous increases the chances they may become useful in new settings, not yet thought of.
Make resources available for use after agreement 134, 212
Actively putting modules and programs into practical work in settings that parallel their original purpose further promotes the underlying knowledge they build on.
Appendix 1

Distribute process and annotation 134, 212
Promoting a decentralised pattern of programming, program use, documentation, and criticism further increases the chances that modules may work together in new and generative ways.

Split screen for navigational aid 157, 211
Splitting the screen into separate areas for presentation and navigation provides space for the more elaborate navigational schemes needed in big and complex archives.

Themes as links 157, 158, 211
In big archives, made up of material compiled from many sources, providing a thematically anchored linkage mechanism can extend the interpretative scope for the viewer.

Persons as links 158, 211
Providing links to when (and in what context) persons appear in a film may further widen the scope for viewer navigation and interpretation.

Material-time link-layout 158, 211
In an archive with historically situated material, following the chronology of the material itself (dates of reference or dates of events referenced etc.) provides one principle for how links of different kinds can be presented.

Exploration-time link-layout 158, 212, 217-218
Following the chronology of user exploration, by recording the contextual patterns of material explored, provides a complementary principle according to which dynamic updates of new relevant links can be supplied.

Shared 3D environments

CYBER YARD

Invitational posters 171, 172
Posters displaying logotypes, the “home” physical environment, or photos of members activities can give visitors a warmer welcome to a virtual world than what strictly “informational” designs may offer.

Central exhibition spot 171
Virtual worlds dedicated to exhibit findings of different kinds (functional designs of objects or processes, experiences gained over time etc) need to guide visitor to the central spot(s) of the exhibition in a way which is at least as conclusive as what visitors are used to from the physical world.
Media attraction 171
One way of extending the rendition of a certain finding, beyond the recreation of it as a 3D construction, is to enrich its presentation with supplementary sound, video, and/or QuickTimeVR recordings.

3D to 2D poster 171
Digitised images of web pages, or of their indicative parts, can be used to give visitors an overview of websites that can be accessed throughout the exhibition.

Neighbourhood building area 172
The teleporting device gives the inhabitants of 3D worlds the opportunity to move freely, both as settlers and as visitors. On the other hand, the sense of shared values, as expressed in the inhabited places created by the settlers, provides a strong cohesive glue for virtual neighbourhoods.

Common entrance to neighbourhoods 172
When a neighbourhood becomes too dense and is split up into building areas wide apart, then the building of a common entrance to all the sites becomes essential for sustaining the sense of a common purpose, shared by the group of neighbourhoods.

Self-declarative object 172, 213
Some shared 3D environments provide designers with a mechanism for making objects describe themselves in short pop-up windows, a provision which, when used with care and imagination, can help visitors navigate in a more relaxed way.

Programmable navigational guide 173, 213
Some environments also let designers program avatars to respond interactively to requests from visitors, a feature which as of today is seldom used but, as programming interfaces become more accessible, has the potential to greatly enrich navigational dialogues.

Path of photos animate workflow 173
Recreating paths through a workplace with photos that animate the general workflow is a straightforward but informative way of accounting for processes with a duration of minutes, hours, or days. (The project Invisible shape of things past, referenced in the pattern definition of Time-layered building above, exemplify an extraordinary application of this “path-layered rendering” in which cinematic recordings are “drawn out in space” to recreate the dynamic shape of things past. See also chapter 3.2 of the thesis, Paths and patterns.)
Series of photos highlights organisation

By grouping together photos that reveal key organisational aspects of a certain workflow, specific problems of the overall layout of a workplace can be presented for visitors in one place, e.g. emulating the showroom of the original workplace.

Time-layered building

By building in successively overlaid layers in the 3D space – with objects, paths, and series of photos – a historical perspective that spans weeks, months, and years can be given on the more drawn out processes of workplace and neighbourhood redesign.

Poster signals community events

As Invitational posters can welcome new visitors to a 3D site, calendars, schedules, and agendas that signal community events can help synchronize the ongoing activities of the different groupings of the community.

List of Links to
Non-Fiction Films on the Web

Preamble
This is a two-page ‘interface-in-print’ to a list of links published on the World Wide Web, “Non-fiction films on the web – seven websites that exemplify 22 design elements”, http://www.nada.kth.se/cid/aakew/doconweb/webdopatterns.html

The goal of the list is to demonstrate how the design pattern method can be employed for identifying design elements that make non-fiction films useful and enjoyable on the World Wide Web. The list was originally compiled for a presentation at the seminar Bordercrossing Documentaries, arranged by the broadcasting corporation TV4 in Stockholm, August 2000. The list has since been elaborated for similar presentations.

Instead of duplicating (the surface of) the list of links in print, what is reprinted here is only an annotated table of contents and a few screen-images, to give an idea of substance and form. Due to the fast paced technical development of the domain, new interesting examples could be added at least monthly, in order to keep the list up-to-date. What can not develop at the same pace though, is the methodology for identifying and analysing sustainable design elements. It is in this respect I hope the list can prove to be useful. Therefore, I am grateful for all comments on the list: pointers to other, more illustrative examples, comments on individual design elements, or critique regarding the design pattern method as a useful tool for analysis.
Introduction

Web Documentaries?
- Technological restriction. - Don Norman’s term featureitis. - Ted Nelson’s term docuverse.
- Professional languages raise barriers for dialogues between technologists, producers, and users.
- The Design pattern method proposes common vocabularies to enhance dialogues.

Design patterns of the documentary

A question about accountability?
- What kind of borders are interesting to cross? (Are documentaries about ‘authenticity’ or not?)
- What stylistic devices on the web can support an extended accountability?

Examples

Web Center
- Atom films: The Skater: Across Los Angeles (Tracey and Ziegler, 1999)
Magazine website
- Rolling stone Magazine: Ramblin’ Jack Elliott (Aiyana Elliott, 2000)
TV network website
- ABC: Web news show (Sam Donaldson, 2000-08-09)
Media Center website
- FreeSpeechTV: This Land IsYour Land (Hawes-Davis, Sierra Club, 1999)
University website I
- Center for Hidden Camera Research (Mamber, colleagues and students, 1997–)
University website II
Public Service TV & University website
- Oregon Public Broadcasting: Nerds2.0.1 (Cringely, 1998)

Further notes

Patterns and guidelines
- Differences between patterns and guidelines. - Full pattern descriptions.
Compiling patterns
- A way to share established procedures. - A way to spot procedures in-the-making.
Need for sharing
- Free software, free design libraries, and the public domain of education and research.
Seminar vocabulary
Other devices
- Long recording phase. - Immersive sound-recording. - Editing in country of exhibition. - Recording as part of Research. - Do look in the camera.
Design pattern links
Documentary method links
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http://c2.com/cgi/wiki?ExtremeProgramming

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http://hillside.net/patterns/

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USOR, A Collection of User Oriented Methods
http://www.nada.kth.se/cid/usor/

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http://www.sussex.ac.uk/library/massobs/

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http://www.tco-info.com

Users Award Enterprise Software Labeling project
http://www.usersaward.com
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