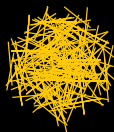


ESSEMBLE:
BRIDGING
THE FRONTIERS
BETWEEN FILM
AND ANIMATION



essemble

ESSEMBLE:
BRIDGING
THE FRONTIERS
BETWEEN FILM
AND ANIMATION

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ULUSOFONA, LISBOA, PORTUGAL
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József Fülöp

Head of Animation Department

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INTRODUCTION

This publication stems from the work developed during Essemble, a research and training endeavour that was developed by a consortium of four European film schools between 2012 and 2017. Initially funded under the European Union Media program (project ref: 1002TR029002PT), Essemble was implemented by a consortium of five European film and Media schools: Universidade Lusófona (ULHT), Film, Video and Multimedia Department, Lisbon, Portugal; LUCA School of Arts, Brussels, Belgium; Moholy-Nagy University of Art and Design (MOME), Budapest, Hungary, and ifs internationale filmschule köln in consortium with TH Köln – University of Applied Sciences, Cologne, Germany. Cologne, Germany.

Initially designed essentially has a training activity, Essemble addressed the need of European Film and Media Schools for training and mobility activities focusing on media and film related technologies that push the traditional barriers of the medium and call for new pedagogical and didactic approaches. The project involved the delivery of a set of intensive training activities dealing with the acquisition of skills and competences in new film technologies, such as stereoscopic imaging, augmented reality and visual effects, and their application in the context of the creative production of new filmic formats that cross live action, animation and virtual moving images. More recently, the project became an Erasmus + funded initiative (Agreement number – 2015-1-PT1-KA203-013112) and started to incorporate besides the training dimension, also the technical and artistic exploitation of different media's, namely VR, potential to push the barriers of cinematic creativity.

The project's main objectives included the creation of a network of competences in digital film; the development and implementation of an interdisciplinary training program focusing on film development; the development of co-production initiatives between all schools involved in the consortium depicting the creative use of the taught technologies, and theoretical and critical reflection on the crossings animation and film promote when confronted with a changing media environment. This eBook tries to reflect some of the challenges of setting up such process but also collects a number of texts and essays that deal with the outcomes and findings of the project.

Part I of the publication highlights the perspective of each of the involved schools in relation with the project, their motivations to implement this project and what they have achieved. Each of the four schools summarizes in a brief essay, not only their perspectives about the program, but also how they envision that the challenges this programme dwelt with, namely those that derive from digital transformation, affect their schools and the mission they aspire to fulfil.

Part II concisely describes how the project was implemented via a number of project development led modules and depicts some of the outcomes of this process in the form of students' projects that bridge the barriers between film and animation and experiment with new technologies, such as VR and 360° video.

Part III collects a number of essays, some of a more theoretical nature and others of a more applied nature, that reflect on the transformations storytelling is going through under the influence of a myriad of new platforms and technologies and how these processes expand the frontiers of cinema and open new possibilities both for auteurs and audiences. Sylke Rene Meyer reflects on the core concept of spatial storytelling that was used as a driver for creative production in Essemble's latest stages and the consequences it has namely on what concerns the hybridization of film with other storytelling formats such as videogames. Narratives and storytelling are also the topic of Natalia's Fabrics paper that focus on the problems these new media create for more traditional forms of storytelling. Paulo Viveiros discusses the concept of the multitask cinema as a core outcome of the transformations digital cinema is going through and the consequences this has both for creators and audiences. Manuel José Damásio reflects on the role of the moving image and how this is affected by audiences' changing experience and creators' experimentation with new technologies in the domains of the cinematic. With a more applied approach, Peter Moyes and Louise Harvey present us a case study of the development of an animation based virtual character and how this was used to create an original experience for audiences. Brecht Debackere present us with a case study of VR technologies use in order to expand the possibilities of the cinematic experience. The book closes with an essay by Bruce Sheridan focusing on the

impacts VR technologies can have for storytelling and the overall cinema production model.

All together, these different papers highlight the overarching importance of the work conducted throughout Essemble in promoting critical reflection and experimentation around digital cinema. It's our conviction that this practice based research approach is the one that best suits the complexity of problems and challenges these technologies entail and the social consequences they have.

We hope that by reading this eBook, not only the reader gets an understanding of the work that was carried out in the context of this project, but also of the questions and sometimes perplexities that everyday drive the educational and research endeavours of these different schools.

**PART I ESSEMBLE:
A DIDACTIC AND
PEDAGOGICAL
APPROACH:
FIVE SCHOOLS/
FOUR PERSPECTIVES/
ONE PROPOSAL**

ESSEMBLE: OPPORTUNITIES FOR EXPERIMENTATION. ULUSOFONA, LISBOA, PORTUGAL

Manuel José Damásio

Head of the Film and Media Arts Department.

Universidade Lusófona

Universidade Lusófona assumes itself as the leading provider of film and media education in Portugal and an active participant in the European training and research landscape in all areas related with film, animation and interactive media.

The film and media arts department at Universidade Lusófona is committed to providing hands-on specialized skill training, to foster individual and collaborative creative growth, and to serve as a testing ground for the application of emerging film and media technologies. Our department promotes both initial, continuous and advance training in the different areas of film and media creation and development,

besides actively being engaged in several research projects with partners and organizations at a national and international level.

The film and media arts department offers state of the art facilities and equipment, in the midst of a vibrant environment that nourishes our students talent and their strive for creative and technical fulfilment.

The department and the students' productions are regularly funded by the Portuguese Film Institute (ICA) and the university is a full member of CILECT - Centre International de Liaison des Écoles de Cinéma et de Télévision and GEECT - Groupement Européen des Ecoles de Cinéma et de Télévision, besides being accredited by the EU for the provision of initial and continuous training, it is also a member of the European Network of Excellence for film and Audiovisual training. Universidade Lusófona Film and Media Arts department currently offers 9 undergraduate courses, 4 masters courses including 2 European Joint Master Degrees and 1 Phd programme in Media Arts.

Universidade Lusófona was the leading institution in the Essemble's consortium. For Universidade Lusófona Essemble represented and unique opportunity of bringing together two areas of education relatively separated within its film and media arts department: film and animation, but also to experiment with new technologies, such as MOCAP and VR the University was at the time investing in both with educational and R&D purposes. ESSEMBLE proved the merits

of this approached based on the use of specific technologies as a driver for experimentation at an artistic and educational level. In fact, it was the opportunity of using these technologies for the development of original projects that brought together students, teachers and researchers from these different areas. If a top down directive approach was used instead that recommended the common development of projects based on the crossing between live image and animation, we suspect results would not have been as good as they actually were. ESSEMBLE showed us that when technology is introduced in an educational environment in a playful and didactic way via the experimental development of projects, students and staff adherence to its adoption is much higher and final results much more interesting.

At the same time, ESSEMBLE was also a great opportunity for networking and mobility of staff and students and was one of the key assets for the reinforcement of our school international profile.

ASSEMBLE - ENSEMBLE LUCA SCHOOL OF ARTS, BRUSSELS, BELGIUM.

Bart Geerts

**Vice Dean International Office and LUCA Art Office
LUCA School of Arts**

With the 'end' of the current ESSEMBLE program in view it is good to reflect on what ESSEMBLE has done, what it has brought us and what it might lead to in the future. ESSEMBLE is a strange word. Some might take it for a spelling error and might politely ask if I did not mean something different. "Perhaps you meant the English verb 'to assemble' or the French word 'ensemble'?" Hybridity is typical of neologisms. ESSEMBLE is not an exception to that observation. Moreover the hybrid and somewhat elusive character of the project's name is one of its main qualities. For although the overall aims of the

ESSEMBLE project are quite clearly defined and documented (circling around notions of mobility, international cooperation, education, training, and of course the playground between film and (new) media) it is not easy to explain what a project like ESSEMBLE actually means for the students, teachers, and institutions that have taken part in it. It is both about bringing things together (to assemble) and working together (ensemble). These two points are what makes the whole project so unpredictable, exciting and relevant today. So allow me to briefly explore the nature of ESSEMBLE by zooming in on four of the adjectives I have used to far to describe it: hybrid, unpredictable, exciting, and relevant.

<hybrid>

ESSEMBLE's elusiveness lies in the fact that what ESSEMBLE is aiming at is often difficult to grasp or to find. It is not just about making films and understanding the technology needed to do so. It is about finding out how these technologies can actually change our preconceptions about film making as such. It is about how something that we are not aware of yet, might enter into the vocabulary of film making. It is about combining different sources of expertise, tradition, and perspective. ESSEMBLE's offspring has to be hybrid. We are more or less in control of the input, but we cannot yet pinpoint exactly where that might lead us to.

<unpredictable>

That of course makes the whole project unpredictable. Students are immersed in different technologies, strategies, and histories, but what they actually start doing with all that material is up to them. The script of ESSEMBLE hints at a number of tendencies of the present and things that may have been overlooked in the past. But the script is not clear on how all these elements have to be combined. ESSEMBLE is not about inventing the future of film, but about exploring the combinatorial potential inherent in its history and in its crossovers with other media with the aim of finding the right visual language of expression, however unexpected that may be. The circumstances help us here. Students and staff cannot rely on what they already think they know; they cannot fall back on existing structures and workflows, because everything has to be shared with people from different backgrounds. People who work differently, who react and respond differently, and who see things different.

<exciting>

That is what makes the ESSEMBLE experiment so exciting. It is about bringing together new perspectives and impressions in a collective knowledge base that might potentially lead to something new. That includes the failure of one's own expectations and pre-conceptions, and the frustration about the time it takes to develop something together. Suddenly the workflow that students have been relying on does not seem to work, but rather to create an endless flow of work. That can be due to fundamental problems, superficial misunderstandings, or simply to different habits and timetables. But failure and frustration are an integral part of the ESSEMBLE learning process. You have to make do with the material at hand, you have to be creative, you have to negotiate, and you have to come up with solutions.

<relevant>

The last sentence of the previous paragraph is not just a random list that sounds familiar to most people who have been active in the ESSEMBLE project. It is also a rather literal translation of what the World Economic Forum thinks will be the main skills needed for the jobs of the future. To just name the top 5 of the skills they listed: (1) complex problem solving, (2) critical thinking, (3) creativity, (4) people management, (5) coordinating with others. I do not want the claim the predictions of the World Economic Forum to substantiate

ESSEMBLE's relevance, but it offers a powerful argument if you think about it for a second. ESSEMBLE offers a group of students and teachers an international learning experience to master the skills needed for our society of the future. Moreover, it does so in a creative environment that is all about envisioning how things might look like in that very future. In that sense ESSEMBLE offers a true learning experience. ESSEMBLE that is, as an experiential educational model: learning through doing and exploring. That is also why opening up the ESSEMBLE experience to others (who have not taken part in its initial experience) is so important. The audio-visual industry does not stop at national or European borders, and it is not hampered by 'historical correctness'. It is about combining from the past and the possible future, together with people and partners we do not yet know that well, but who might very well become our closest allies in the near future.

**ESSEMBLE:
BRIDGING THE
POINTS BETWEEN
FILM AND ANIMATION**
MOHOLY-NAGY
UNIVERSITY OF
ART AND DESIGN
BUDAPEST - MOME

József Fülöp
Head of Animation Department
MOME

The original goal of ESSEMBLE project was to develop a Pan-European network of young filmmakers who are skilled to use digital tools and understand the possibilities of convergence of film and animation.

Since the collaboration has started between the partner schools, the project itself changed and incubated itself. The recently finished module had a focus on research the future of cinematography, where the digital filmmaking, the virtual and augmented reality could deliver new attitudes regarding content development and production methods.

Animation has a key position in the digital age, because the last 30 years became the most powerful tool of audio-visual communications, and its special design thinking attitude - to plan every little aspects before to start the process - is basic rule in the digital filmmaking.

MOME has a strong tradition in the field of classical animation. Our contribution to ESSEMBLE project to deliver this knowledge, and research new platforms where the audience able to enjoy high quality narration and visual language in the same time.

THE IMPORTANCE OF DIGITAL FILMMAKING AND HOW IT AFFECTS EDUCATION IN FILM SCHOOLS: IFS INTERNATIONALE FILMSCHULE KÖLN

Simone Stewens

The patterns of production, reproduction, and distribution of cultural content supposedly never changed in such a fundamental way and within such a short time frame, as they did within the last 20 years. The cultural relevance of digitalization is vast: In terms of content, because technical (re)producibility is facilitated, and in terms of technology, because digital media with its specific characteristics is expandable. In principal, for a digitally produced work or piece of art there is no ending, they could be changed or continued forever.

Our media culture has never been as diverse as it is now – it seems hard to predict in which direction its evolution will lead us. New media also means that there will be new job descriptions, new methods of media education and that new competences will be in demand. Digital workflows increasingly determine professional everyday lives, and job profiles in the media industry are more and more differentiated, while more and more specialization seems to be in demand.

Film: Even the word seems outdated. Rapidly developing advances in digital technology have made filmmaking more portable and more affordable. Anyone around the globe, who hasn't had access to resources and funding for filmmaking before, now has the opportunity to create movies and distribute them. Films have become ubiquitous. The sheer amount of content posted on the internet leads to an interesting question: How can filmmakers today stand out as artists with so many projects being produced?

This has left many film school professors and industry insiders wondering what film schools should offer their students in times like these.

At the ifs internationale filmschule köln – like anywhere else – we have discussed this topic frequently, and continue to do so on a regular basis. We try to find answers to the challenges provoked by the digital revolution and its effects on filmmaking, which might be considered to be going in opposite directions, but in fact they are complementary. We could even say: The digital evolution left a deep imprint on the

development, strategies and growth of our school, perhaps more than others, since we are one of the youngest film schools in Germany. The ifs internationale filmschule köln was founded in the year 2000, firmly built on two preceding schools: the “Filmschule NRW” (Film School North Rhine-Westphalia) in 1997, and the “Schreibschule NRW” (Writers’ School North Rhine-Westphalia) in 1995.

From the beginning, “digital disruption” was part of our curricula, at first in critical studies. Our professor for comparative media studies, Dr. Gundolf Freyermuth, was principally appointed, because he was at that time one of the few media scientists who focused on the digitalization of film and media in his tuition and research. Prof. Freyermuth is a brilliant scholar, and his objective was clearly to implement and establish a high level of digital literacy among the students, and a familiarity with the main theories and doctrines on digital culture and their defenders – implying, of course, the transfer of this knowledge to the students’ own artistic and practical work.

At the same time we thought it necessary to stress the importance of craft in audiovisual storytelling in a more traditional sense.

In spite of the change in the media, the fundamentals of storytelling remain important. Profound and repetitive instruction in dramaturgy and the core elements of storytelling will continue to lead the students to be better writers. However, writers need to expand their knowledge of the digital realm – regarding story architectures and spatial

storytelling – for instance in the context of 3D. They also need to learn about spatial semantics in general: In narrative spaces heterotopias come to life: dream worlds, surrealism, games of thought, fantasies. “Story-architects” of the future need dramaturgical models, which function in 3D, and they need to be trained in theory and practice.

One of the main effects of digital filmmaking is of course the multiplication of possibilities to create images and sound. According to renowned media scholar Lev Manovich, digital cinema represents, an “elastic reality”. With the options to manipulate single digital images or scenes, the medium film is transformed to a series of “paintings, paintings in time”.

Since the transformation of digital material usually happens during the post production phase, digital filmmaking leads to an emphasis on postproduction. More jobs exist now in postproduction than anywhere else in the audio visual industry. In our “Editing Picture & Sound” study course, students learn how to drive storytelling through manipulating images and sound. Being trained for both editing fields; image and sound equivalently, they are enabled to later focus on one. But the core is still the same: The editor has to find the right dramaturgy for each film and defining a workflow using various digital tools, is simply contributory to his or her process. This has become a special challenge in digital times, where restrictions of quantity in the raw material no longer exist and endless possibilities confront a generation which struggles with decision making.

In 2012 – after diverse hearings with experts from the industry – we introduced our new BA-study program “Visual Arts”, which we later named “VFX & Animation”. Our VFX & Animation students are trained to work with the most relevant visual effects programs, enabling them to expand their possibilities of artistic expression and design. In addition, they learn how to connect rendered images with scenes shot in a photo-realistic way. Via 3D- animation the students design and realize entire short films as well as the settings for virtual reality environments. The interdisciplinary structure of the school allows us to teach communication between the departments VFX & animation and cinematography, supporting learning from peers, which leads to better results.

In 2015 we merged our three BA study courses into one course: BA Film. The effects and needs of digital workflows had a strong impact on this move. We realized that in times of digital filmmaking the need for an interdisciplinary understanding and more intense collaboration was increasing. The merger aimed to diminish the lack of knowledge of the interfaces between the traditional departments and disciplines in film production. This strategy was also designed to inspire and implement non-linear thinking and operating, within the production process.

In the spring of this year (2017), we added the seventh discipline to our BA Film study course: production design – a department, which had already been part of the school for many years in our

further education branch. As a field of study it combines the classical analogue work in the art department with the multiple techniques of virtual cinema. Students collaborate closely with their fellow students from the VFX-department and of course, all the other film students.

The effects of digital filmmaking also lead to new fields within traditional film-education, such as transmedia and entrepreneurship, where the students need to be prepared for evolving digital markets. Since audiovisual communication has become the main medium on all potential platforms, there are by far more markets to explore than the classical realm of entertainment for cinema and TV, promotional films and advertisement, such as: games, architecture, natural sciences, history, archeology, sports and other parts of the economy, i.e. the car industry. Distribution has changed and expanded: There is so much material being produced, calling for strategies to make artistic results visible in a huge fragmented market.

Another effect of film becoming digital, apart from the digitalization of the production process as a whole and the need to provide digital equipment for every step in the workflow, was the re-organization of project work within the film production in our school. Since 2016, our project development and producing, follows the design thinking process. Meaning: the process leaves the linear structure and becomes more open and non-linear, following principles of iteration, agile producing and prototyping.

Finally, we realized that there is a deficit of artistic and scientific research in the realm of digital media. Basically, all of us feel the need for constant learning via innovation. This is the main reason, why we decided to implement a new research-oriented MA program called Digital Narratives. Our MA Digital Narratives is a 2-year international program, where innovative narrative forms in digital media are explored artistically and theoretically. The program focusses on the creation of trans-platform-experiences rather than one-off-narratives, and on how audiences can be “designed” for digital innovation. At the same time, the effects of digitality and data on individuals and society are investigated critically. We launched the program in 2016 and received a large international response to the first call. Today students from all over the world are studying in this program.

Last not least – digitality produces data that potentially can go global. When we became a consortium partner in the first edition of ESSEMBLE in 2011, this EU-funded program clearly was an international mirror of inspiration for the implementation of digital filmmaking in our curricula at that time and a key factor in our internationalization. Continuing on, we have expanded our international relations considerably and increased the number of international programs we participate in. But also within the more traditional programs – our goal must be to prepare our students for the future of audiovisual media in a globalized world.

**PART II ESSEMBLE:
PROGRAM
DESCRIPTION
AND OUTCOMES**

THE PROJECT

ESSEMBLE is a strategic partnership project in the area of Film and Media Arts education focusing on the development of creative and technical skills in digital film and animation production.

Essemble addresses the need of European Film and Media Schools for training and mobility activities focusing on media and film related technologies that push the traditional barriers of the medium and call for new pedagogical and didactic approaches. In particular, the project involves the delivery of a set of intensive training activities dealing with the acquisition of skills and competences in new film technologies, such as stereoscopic imaging, augmented reality and visual effects, and their application in the context of the creative production of new film formats that cross live action, animation and virtual moving images. Complementary, the project also involves the development of new learning methods and didactic materials focusing on new film production technologies; the reinforcement of digital skills amongst arts students and teachers, and the implementation of a new interdisciplinary program. Together, these activities should address the clear need for much more stronger and interdisciplinary training on the creative use of new technological tools for film, animation and media related content creation and production.

Essemble both contributes to the overall quality of film and media arts education in Europe by reinforcing its technological edge and the integration between conceptual and creative skills, while at the same time contributes to its international relevance by promoting the alignment of educational strategies and content with state of the art practices and tendencies in film production, namely on what concerns the ever more deeper convergence between film and other discourses via the integration of different digital technologies.

TARGET GROUP

The target group for the project is each school final year undergraduate students and Master students. A selected group of each school students are recruited accordingly with their areas of expertise to form four teams. These four groups will all work together in accordance with their area at different stages of the production.

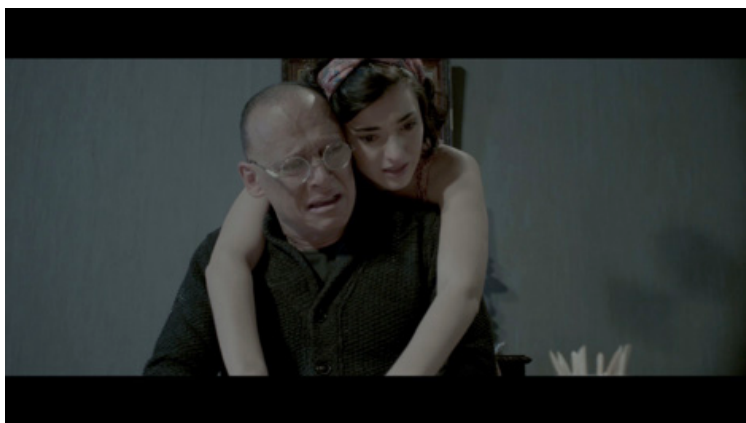
Target group also includes other students and teachers from the schools involved in the course that will indirectly benefit from the project and both professionals and local stakeholders in the areas of film and animation production who will in the three years period benefit from the project, namely via access to the know-how that is disseminated from it.

TRAINING ACTIVITIES

ESSEMBLE revolves around a two folded approach: intensive live training sessions and production workshops that follow the production path that goes from conception to post-production and finishing, namely when stereoscopic compositing is involved. The two main achievements foreseen for the project are the competences to be acquired by students and the films they will complete. Both these achievements are closely interlinked and one depends on the other. On each central stage of the production value chain, a selected group of students is both the object of the training activity and the main responsible for the development of the production process.

Our focus is on the training of both the students' abilities to express and communicate their "views" to others and their capacity to integrate original visual aesthetical elements coming from new technological arenas into to their discourse.

THE FILMS REACHING OUT



Sarah fell out with her father Joe and was too overwhelmed by his PTSD and his Parkinson's disease. He was a changed man and Sarah yearned for freedom, so she left Portugal and went to London to study art. But she was not as successful there as she hoped, so now Sarah is arriving back home, desperately trying to reunite with her father. It takes several attempts, Joe will not even look at her, but in the end she breaks through to him by showing him a clay figure Joe made of Sarah when she was a little girl. Finally, Joe looks at Sarah and there is hope for them to start afresh.

FLYING BICYCLES



Synopsis:

Miloslav, an old small stop motion puppet, wants to revive his acting career. He takes on an audition for a new movie called 'Flying Bicycles'. Things are not what they used to be however. Miloslav needs go up against many kinds of newer animation characters, ranging from old colorless drawn 2D-characters to fully-fledged modern 3D rivals. Can he proof his worth and win the role?

STUDIO 109



Synopsis:

As the childish Afonso realizes it is finally time to grow up, he submits himself to a procedure that's will irreversibly change him into a much different man.

A RAPARIGA DO CABELO VERDE

Synopsis

This is the story about a 15 year old called Anna who's sense of write and wrong no longer exists.



**FILMS FROM
PREVIOUS EDITIONS
OF ESSEMBLE**

SOCIAL ANIMALS



Humorous sketch film about animals, who exist in their everyday lives in body only, whilst their minds are elsewhere.

Rendező/director: BUDA Flóra Anna; KOSKA Zoltán; SZÁSZ Enikő; TÍMÁR Anna; TAKÁCS Barbara (2015, vegyes technika/mixed technique animation, 04'30)

<https://vimeo.com/169505615>

RONDE



In Portugal, during the dictatorship, Roberto Magalhães a boxer coming from the working class, is taken into a blackmailing situation where much more than winning combats is at risk.

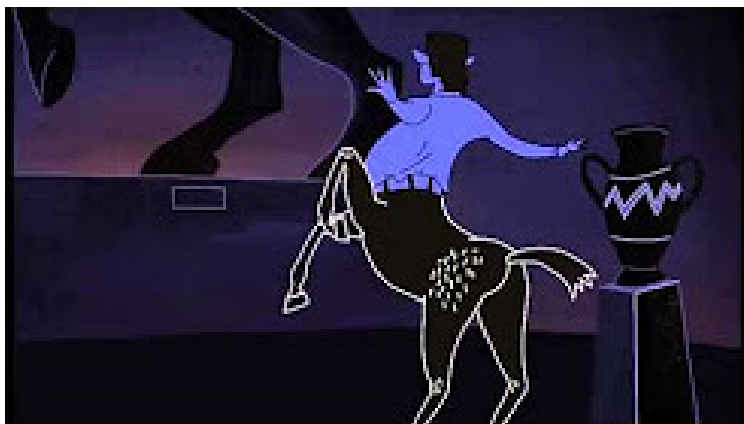
LIGHT GAME



"When an isolated woman discovers her own creativity within her routine, she stands between her newly won individuality and a caring but determined creator, and begins a game of hide-and-seek in the midst of light and shadow."

<https://vimeo.com/101008241>

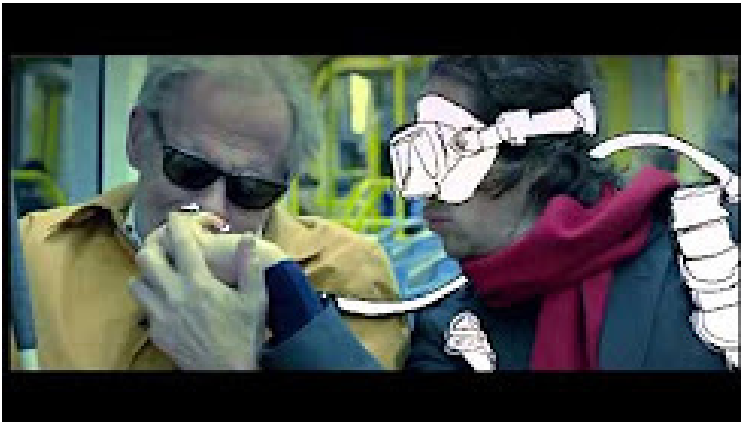
RON



Ron, the centaur works as a policeman in a metropolis. An unexpected event disrupts his daily routine, making him question where he really belongs.

<https://www.youtube.com/watch?v=9SdXdQadkX0>

THE BENCH



At first glance the situation of two people sitting on a bench seems very normal to our eyes. But what is behind what we can see? „The Bench” brings people together in different places, captures their often weird reality and forces them to dive into them.

https://www.youtube.com/watch?v=pX_AQJvPASA&t=27s

UNEARTHED



In a time of modern comfort and endless curiosity, the world is on the break of a great discovery. A father and his son decide to flee from the hectic citylife and what this great unknown discovery might bring forth. What follows is a cataclysmic event, which sends the boy on a journey of discovery, trying to reunite with his father in an altered, other world.

<https://www.youtube.com/watch?v=PhIUL4dHE0Q&t=4s>

PURSUIT OF HEAVEN



Winter at the end of the world. Penny, a woman on the run, lives on her own in a tent at the edge of a wide site. On the other side of it: a lone business tower looming in the moonlit night. She sleeps with her eyes half open, knives in her hands, until the rustling of the leaves turns sweet that night and an angel falls down from heaven, giving her a moment of abundance and warming her before she falls asleep blissfully.

<https://www.youtube.com/watch?v=n3EM0yJnsYQ>

BACKPACK



A story about a girl sitting in a park, searching something in her bag. There she finds experiences, impressions and memories, but finally overcoming them she can start a new life.

<https://www.youtube.com/watch?v=PfrCr1XxOU0>

FOR YOU TO SEE



Over the years Fred, a young and blind man, has developed a technique to see. Producing a crackle sound with his mouth and using the technique of echo-location can sense what's around him. After a few years away from his hometown, Fred feels the need to come-back, and with Madalena to join him, he experiences a nostalgic journey through spaces and moments that have marked him and made him what he is today. A lesson about what marks people for life, how we grow, an introspection on how sometimes we really need to see to believe.

<https://www.youtube.com/watch?v=J4AFCLW7A18>

MARY



In Alfama, a typical neighborhood of Lisbon, the gas balloons are delivered house to house. Each has its own personality. Mary, the eldest, sees over the years the life of several couples who live in the neighborhood. When taken into a Hostel she then watches a radical change on how people feel and live their relations and does not understand why that's so different now. Where are the feelings? Are they left with the ones who stay or the ones who left? Mary decides to get out of the gas balloon she has always lived in, but that decision can jeopardize everyone who lives around her...

<https://www.youtube.com/watch?v=Qcci1rajZHk>

ALICE



The short film is about a girl in a real city, a live action city, she's the only one that is still pure and animated. Through various influences of the dirty city she slowly becomes live action. She would like to remain animated, but there seems no escape. Then there is a magical animated blue flower.

<https://www.youtube.com/watch?v=rMzKp7bsx5Y&t=13s>

MADARAK



Two friends decide to break out from the isolated, crumbling, cursed place they've been living in, and experience the unknown. Their friendship will be tested right at the beginning...

<https://www.youtube.com/watch?v=rYlgh1VwOLs>

WE ARE DESPERATE



To know yourself you need to let go of control, give a leap of faith and let flow through your emotions. This is a film about an intimate journey of self-knowledge, the discovery of personal barriers and emotions.

<https://vimeo.com/144877048>

IN ALTITUDE



A dreamy animation student girl realizes that her grandfather is a more fragile human being than the unbreakable person she believed him to be in her childhood.

PERFECT FIT



A primary school reunion after 20 years - the chance for former outsider Anna to finally make herself popular. And Anna has also developed the right skills: she can adapt perfectly to her counterpart - her looks, her language, her attitude and her opinion change, depending on who she's talking to. Only when she meets Mika, she unexpectedly reaches her limit - and is confronted with a problem: What personality actually has a chameleon?

ROEDEL



**PART III ESSEMBLE:
REFLEXIONS
ON DIGITAL
STORYTELLING AND
THE FRONTIERS OF
CINEMA**

**RIGHT, LEFT, HIGH, LOW
NARRATIVE STRATEGIES
FOR NON-LINEAR
STORYTELLING
SYLKE RENE MEYER**

Abstract

Based on studies of affect, and on theoretical works concerning spatial semantics by Yuri Lotman, Mikhail Bakhtin, Michel Foucault and others, spatial story design provides a seven step algorithm of story development for interactive audio-visual narrative. Following spatial semantics and its application in interactive storytelling, the author no longer creates the protagonist, his or her want or need, nor controls the story arc. Instead, spatial story design allows the author(s) to make the formative creative decisions by designing a narrative space, and spatial dynamics that then translate into user generated storylines. Spatial story design serves as a framework for interdisciplinary collaborations, and can be used to not only create interactive digital narrative but also screenplays, improvisational theatre, 360° films, and walk-in story world experiences for a number of users in either live or holographic virtual reality spaces. Spatial story design could inspire creators of interactive narrative, storytellers in time-based media, and possibly also technology developers for authoring tools.

Keywords: non-linear storytelling; environmental storytelling; spatial story design; affect theory ▪ screenwriting; digital filmmaking; improvisational theatre; Mikhail Bahktin ▪ Yuri Lotman; Michel Foucault.

Premise and Promise

Today, interactive user-oriented narrative is overtaking the story structures linked to the linear narrative of time. Unlike time-based media which are often single-authored, and presented to its audience, digital narrative evolves through use. The user, unlike the audience, co-creates the story while playing it. This most recent manifestation of storytelling challenges time-based linear storytellers, as well as spatially oriented narrative designers. In this context, the cross pollination between today's media may lead to a different kind of storytelling, as film in the beginning of the 20th century influenced storytelling in all other media. Following Marie-Laure Ryan, and others, I contend that "the choice of a certain medium, e.g. computer game vs. film, modifies the way in which the story is shaped, presented and received" (Ryan, 2003). Interactive digital narrative may be seen as the medium of the 21st century, and probably mark the end of time, because it is no longer based on time, as time-based audio visual media is, but on space, and therefore correlates with our current world view of "living in the epoch of space" described by Michel Foucault in his essay "Of Other Spaces: Utopias and Heterotopias". Taking its cue also from Adorno and Marshall McLuhan, that every social contradiction returns as a formal problem in art, and that every revolution employs the newest medium, spatial story design may provide the dramaturgy for stories that respond to the social

contradictions and collective neuroses of our time, and to the message of a digital medium that is inclusive, democratic, and user-oriented.

Let me begin by clarifying my understanding of interactive storytelling, and the questions I try to answer. The probably strongest presence of interactive storytelling can be found in narrative games, where interactivity can take a wide range, from hardly any formative presence of interactivity to unlimited participation. Games can be classified through the relationship between the game story and the player story. The game story comes from linear storytelling is based on questions concerning the protagonist's motivation, like super Mario has to free princess peach. The player story consists of verbs concerning the player's actions. It is the actual experience the player makes while playing: excitement, stress, joy while jumping, collecting, running, shooting etc. In a broader sense, the player story generates its own narrative while playing. The player story is always interactive, enabled and limited by the game mechanics, the code. The game story is authored. Interactivity is based and limited to the number of storylines preconceived by an author that allow the user to make choices. The more story and game overlap, the more interactive storytelling we actually create. *Dragon's Lair* (1983) for example consists of practically 99% story and offers hardly any interactivity. If you don't follow the written and predefined story, you'll never see a dragon. Many of the current developments in narrative games chose this format, often within a cross-medial story world. For example *The Walking Dead* (2010-present) works as a TV series, as well as a single story game allowing the user to enjoy an immersive

experience that may eventually replace cinematic experiences, yet not a lot of interactivity. *Heavy Rain* (2010) has an extended interactive matrix, using a dynamic narrative (an AI narrator) to while games like *Call of Duty* (2003-present), has hardly any story at all, and allows for a maximum of interactivity.

Interactive storytelling follows in principle one of these three models: the tree structure, the directed network structure, and the open world model. Although multi-linear, they first two models are linear, and offer only limited interactivity, and limited user-generated narrative. Linear story models like the 'hero's journey' have been employed to only create a predictable story arc based on narrative clichés already present at the users narrative vocabulary. As a result, multi-linear story models represent one of the problems in interactive digital storytelling that manifests itself in the debate between ludologists and narratologists, and the question of whether or not interactivity is actually the opposite of storytelling, (the problem of interactivity versus plot), in which interactivity is almost the opposite of narrative (Adams, 1999; Costikyan, 2000).

A maximum of interactivity presupposes a non-linear, open story world where the visitor or user navigates and operates freely. Yet here, story models like the P.I.N.G. model (Passive-Interactive Narrative-Game model) struggle with the lack of narrative control (here with the game *Aporia*) over the narrative experience that the user makes. "In general too few (20%) participants understood the story in *Aporia*.

The interaction with key objects seemed to steal the focus from the narrative and took most of the participants' focus, also when describing the narrative" (Bevensee et al., 2012).

Alternatively, my concept of spatial story design privileges space over time and usership over authorship, yet at the same time, it gives the author some creative control over the narrative trajectory in space. In open world story design, every visitor or user will experience a different story. What we – as storytellers- can do is to create a narrative corridor, a zone of likelihood and probability. As storytellers, we may have to embrace the idea that we no longer write ONE Story, but design a narrative corridor for potential stories. In probability theory in mathematics as well as in interactive story design, we cannot predict the user's behavior with certainty, but we can control certain narrative factors to estimate the probable behavior of the user in an interactive narrative environment. In non-linear open story worlds, we cannot design a protagonist, his want or need, no character arc, no turning points – but have to invent a different dramaturgy.

The seven step algorithm which I outline is a space-based tool for linear and non-linear storytelling: user-generated narrative, interactive digital storytelling, screenwriting, 360° film making, or any audience-engaging narrative practice that relates to space. It is a basic narrative tool that allows the author to control—to some extent—the space, the story, and the objects that lead to objectives. Referring to Henry Jenkins (2004) and his terminology of "environmental storytelling,"

(idem) the seven step spatial story design strategy may work in every aspect of environmental storytelling: with evoked narratives that have the ability to enhance an already existing one, with enacted narratives that provide narrative elements built up around characters, with embedded narratives where the object and the staging enables the plot, and with emergent narratives where the users construct their own narrative in the story space.

Spatial story design is a narrative strategy that draws from a theory of narrative space, which emerged from the outer frontiers of an empire; marginalized, forbidden, almost secret, it was conceived in provinces of the former Soviet Union. The concepts of Yuri Lotman and Mikhail Bakhtin laid the ground work for an entirely new philosophical approach that became eminent in the late 1980s under the label of the 'spatial turn,' and include, amongst others, the works of Michel Foucault, Julia Kristeva, Susan Stanford Friedman, Gaston Bachelard, Michel de Certeau, and Henri Lefevbre. At this point, many works on spatiality could not been taken adequately into account, and the following concept only outlines the basic idea of spatial story design.

2 Spatial Semantics

2.1 Yuri Lotman and the Semiosphere

Yuri Lotman was born in 1922, and graduated at the age of only 17 years, and with excellent grades from the University of Leningrad.

Being Jewish however, the high potential youth was not allowed to proceed with his doctorate at the heart of the empire, and instead had to go to Tartu, a small town in Estonia where he stayed for the rest of his life. Therefore his theoretical body of work is referred to as the "Tartu-Moscow Semiotic School."

In Lotman's analysis of narrative texts, the temporal structure of the story is not in the foreground, but the spatial organization, the "semiosphere." According to Lotman (1990), a semiosphere (from the Greek *semio* for sign, and *sphere* for space) can be a concrete space with a real geographical topology, such as St. Petersburg, but it can also be a metaphorical space, whose topology consists of the characters of a "plot space," such as the main characters of a myth, the hero, the opponent, the helper, father, mother, son, daughter, etc.

In Lotman's terminology, cultures, semiotic spaces, and semiospheres share the same topological characteristics. In other words, cultures, semiotic spaces, and semiospheres have centers, peripheries, insides and outsides, and boundaries. A (semantic) room is defined in contrast to another room, by its differences, and the border between these two spatial areas is particularly visible. A semiosphere thus is surrounded by a boundary.

For Lotman, the border is the most important topological feature, that parts the text (or its overall semantic space) into (at least) two

disjunct areas, a term he borrowed from set theory where disjunct spaces are defined as 'M' and 'Not-M,' meaning the areas are divided into completely separated parts or pieces.

Lotman contends that these areas differ at various levels: first, they are topologically in opposition - for example, one space is high, the other low. Second, spaces are defined not only by size and location, but also by content, such as characters, states, and functions. For this content, Lotman introduced the term 'semantic properties' of space. Third, to establish a border between two rooms or two areas, each room has to be assigned with a different meaning. For example, one room is good, the other is evil. The semantically loaded topological order then translates into topographical contrasts within the world represented: for example a city vs. mountains (the city being low and evil, and the mountains being high and good).

2.2 Mikhail Bakhtin and Chronotope

The second outsider of spatial narratology in the Soviet Union is Mikhail Bakhtin, who was banished to Kazakhstan by Stalin in 1929, and worked as a teacher intermittently until his retirement in 1961. Bakhtin created his main body of work in the 1920s and 1930s, but became more widely known only in the 1960s, mainly through Julia Kristeva and her translation of his works into French. Bakhtin left us an abundance of discourse material from which I will emphasize only

one aspect at this point: his concept of the chronotope, translating from the Greek *chronos* for time and *topos* for space.

According to Bakhtin, the relationship between time and space constitutes the possibility of actions of the characters. Space organizes the chronological order of the narrative events, and time fills the space with meaning. In other words, the chronotope forms the dynamics of the story world.

Often, time becomes more important in a confined space; and if time is less important, the room expands. In a road movie, we expand space and travel long distances, while the duration of the trip often plays only a subordinate role. In prison films, time plays a prominent role in the compressed space of the prison cell.

Game designers are quite aware of this property of the chronotope, as the author of a game has more control over the user in confined spaces, because the possibilities of movement are limited for the player. In contrast, a player can walk endlessly through a vast, or open source narrative game landscape. In narrative games, the author controls time mostly by controlling space. Therefore, temporal markers are rare in narrative games: we mark time often with the question, “where” we are in the game. It is a question that asks for time and space at the same time, and that is often answered only by space. In response, the player may tell us that she is in the water

dungeon and this is how we know on what level of the game she is, how temporally advanced, and how spatially located.

Bakhtin assigns a special symbolic message to spaces such as the threshold, the gate (meeting, farewell), the court (determination, accuracy, judgment), the path (life, travel, maturity). Other examples are the exile, the landscape, the river, the island, the ship, the lighthouse, the city, the fortress, the house, the stage, etc. that may carry a variety of symbolic messages depending on their context. Also, for example, the places of childhood—like the attic of the family house where a child has found magical things—is a chronotope (Bakhtin, 1981; Todorov, 1984). Chronotopes announce through convention, and their symbolic connotation is a narrative planting, a certain course of action that is about to come. Settings also indicate a linear narrative that has already taken place, like in the example above: somebody must have locked the door. Thus, in space we read the past, the present, and a possible outcome.

2.3 Affect-Emotion-Feeling

The player (the subject) that enters the story world responds to his or her environment, and this is how he or she will emotionally respond, make decisions, and consequently act. In this way, the

player or user responses with judgment, and object placing in this sense can influence his or her process of decision making. However, every subject, every player, has a unique consciousness and set of personal experiences, therefore no one player will have the same relationship with another entity that exists outside of him or herself.

Although the terms emotion, feeling and affect are routinely used interchangeably, it is important not to confuse them (In detail, Heise, 2002). In the definition of Brian Massumi (1987), feelings are personal and biographical, emotions are social, and affects are pre-personal. Affects in this definition are visceral and not informed by culture. They function as a basic physical response, much like instincts. For example, the object 'fast approaching tiger' will trigger an affect that is most likely related to death and fear of deadly violence.

Therefore, object-based affect-control is an important aspect of story design. These affective practices are triggered in familiar ways, and with familiar patterns. Affect can also be seen partially as, any evaluative (positive or negative) orientation towards an object. Behavior depends on personal, cultural, or visceral affects and on the surrounding objects and environment. In the words of psychologist and system theorist Kurt Lewin, behavior is a function of personality and environment ($B = f(P, E)$). So if we change somebody's environment, we also change somebody's behavior. This principle is also known in public communication as choice architecture, and refers to our ability to structure the physical space around us to prime good

choices. For example in a grocery store products on shelves at eye level get purchased more than those down by the floor, or the Massachusetts General Hospital in Boston, where they discovered that they could instantly increase the amount of water people drank and decrease the amount of soda they drank simply by rearranging the way drinks were displayed in the cafeteria. Same applies, for the digital environment. There are a wide range of digital triggers that prompt our behavior. When Facebook notifies you of a new action, you're prompted to log back on. When someone emails you, you are prompted to respond. These digital triggers are simple ways of building habit-forming behaviors in online products and services. In many cases, these digital triggers become distractions that take you away from the work and habits that are actually important to you – but they can also be used to instigate a certain behavior of a user in a VR experience.

There are particular affect-laden, social phenomena that can be usefully investigated through storytelling. For example, institutionalized moments of celebration (New Year), grief (funeral services), joy in belonging (sport fans in a stadium) etc. In certain spaces, the subject-object-relationship may be so strongly predefined that the players' decision making corridor is extremely narrow. Here, the author or story designer holds a maximum of narrative control over the affect-informed behavior of the user. These spaces are quite often chronotopical as described by Bakhtin, and have been analyzed in depth by Michel Foucault in his concept of "heterotopias."

2.4 Michel Foucault and Heterotopia

In most heterotopian spaces, the subject is forced to submit to the order of things. Foucault introduced the term to mainly reveal power structures but the terminology also serves as an useful narrative tool, and since stories (myth) reflect power relations, literary settings are often—not coincidentally—heterotopias. Additionally, in narrative design, the author may create his or her own order of things, his or her own heterotopias, and thereby not only offers an alternative worldview, but also gains some control over the user's affects.

Heterotopias are spaces that reflect social conditions in a special way by representing, negating or reversing social relations. Examples of heterotopias are juvenile, retirement, and nursing homes; psychiatric hospitals; prisons; colleges of the 19th century; barracks; cemeteries; cinemas and theaters; gardens; museums; libraries; fairgrounds; holiday villages; ritual and non-ritual purification sites; guest houses; brothels; and colonies. Heterotopias are places where a behavior deviant from the prevailing norm is ritualized and localized. To understand what deviant behavior, what “the other” means, Foucault returns repeatedly to the subject of travel as the symbol of journey, of exploration, and discovery. Like a story that takes the recipient or user on a journey, Foucault (1986) contends that the place of hopes and desires has always been the ship: a “place without a place,” a self-contained room on the high seas. Foucault emphasizes that

from the Renaissance to present time, the ship not only serves as an important tool for economic development, but also as the greatest arsenal of imagination: "The ship is the heterotopia par excellence. In civilizations without boats, dreams dry up" (idem).

Concerning the key role of time in this regard, Foucault describes two forms of heterotopias: those in which time is accumulated endlessly, piled up, and pressed in books or pictures to be showcased and archived in libraries and museums, and those in which time is extremely limited, and dissolves within a few hours or days, as with festivals or fairs.

Furthermore, heterotopias are always bound to a system of openings and closings to prevent easy exit and entrance. Every entry and exit is subjected to a certain incoming and outgoing ritual. These rituals may manifest itself in complex purification rituals such as a academic entrance examinations, or in a relatively mundane activity like paying your entrance fee at the cinema. The examples show how different these rituals can be, and to what degree the opening or closing to the outside can vary - in cinema everyone buying a ticket is admitted, in the university, however, the visitor must first acquire specific knowledge before being allowed to enter the place. In addition, not everybody entering a room is participating voluntarily in the heterotopia. For example, entering a prison for prisoners is a highly involuntary form of participation; on the other hand, a visitor

walking into the area of the prison remains largely excluded from its heterotopic structures.

3 Spatial Story Design

3.1 Defining Space

Time-based narratives have a beginning, middle, and end. In contrast, in space-based storytelling, the story unfolds while the user navigates through space, interacting with objects present and possibly with other users. It has no determined beginning, and no specific course. In linear, time-based storytelling, a writer usually starts with a character and an action; in space-based storytelling, a narrative designer creates a space and objects. Following spatial semantics and its application in interactive storytelling, the author no longer creates the protagonist, his or her want or need, and does not control the story arc.

Defining a space is one of the most important creative decisions a narrative designer must make. The starting point is always a specific narrative space that contains per se a prolepsis (a narrative planting), and a number of suggested dynamics. The space generates the dramatic or narrative question, like a room with a locked door, which generates the question of whether or not the characters or players will be able to open the door and to find out what's behind it.

In a next step, the space will be filled with objects. Objects are far from arbitrary but influence how a player will navigate the space. Objects in this sense can be physical things but also other characters. Here an object is defined as something observed, while a subject is an observer.

3.2 Border Crossing

In Yuri Lotman's terminology, simply relocating a hero within the assigned space is not an event, or in other words: it is not a dramatic action.

"What then is an event as a unit of plot construction? An event in a text is the shifting of a persona across the borders of a semantic field." (Lotman, 1971, p. 233)

Here the term event corresponds with Aristotle's *perepeteia* (turning point). To Lotman, an event presupposes a couple of binary oppositions: a norm, and a non-norm. Here, the (semiotic) border is a key concept in Lotman's thinking. It doesn't matter if the division falls into friends and enemies, living and dead, rich and poor, or other. What is important is something else: the boundary that divides the space must seem insurmountable.

Based on this logic, another basic assumption implies. As explained earlier, in set theory, disjunct spaces are defined as 'M' and 'Not-M'. 'M' would be something like: all motorists drive on the right side of the road. All scientists argue rationally. All Germans are diligent. Here, the definition of 'M' formulates a norm. Lotman also draws from this context in his concept of border control. In his view, an event-creating border crossing also always violates a norm. Romeo and Juliet cross the physical border from one enemy house to the other, but even more so, they violate the fraternization ban of their houses. An event therefore questions the validity of a set order. If this order is represented by a topographic boundary, the event appears as a border crossing; if the given order manifests itself as a norm or rule, the event appears as the violation of that rule, as an incident departing significantly from the norm, or in Foucault's terminology, is deviant. Therefore, in order to create an event, one needs to clarify the standard, the norm, first.

Lotman gives the example of a couple arguing about art. She hates abstract painting, he loves it. In his example, the aggravated couple goes to the police to report the other. The policeman obviously sends them home. No norm—as far as he is concerned—has been violated. Hating or loving abstract art is not a crime. However, at home, the couple decides to get a divorce – the falling out over art has shaken the very foundation of their marriage. Therefore, not every room change is an event, just as in time-based linear storytelling, not every activity is dramatic action, and not every story step is a turning point.

3.3 Characters & Action

According to Lotman, rooms can be inhabited by mobile and immobile figures. The immobile figure classifies and defines the space. For the immobile character, a border crossing is prohibited. The mobile character, the hero, is a character with a special predisposition that allows him or her to cross the border between the two disjunct spaces.

As an example, Lotman points to the hero of fairy tale, who penetrates the enchanted forest and frees the princess from the clutches of the dragon. The hero leaves the daytime world of his village and crosses the border into the night world of the forest. The forest and the village are disjunct to one another, they don't share a single property, and no one in the village dares to enter the forest- but the hero.

Space in this sense is not necessarily only seen topologically, but may also be characterized semantically, i.e. rooms with different meanings can be found in one physical space. Lotman calls an event "restitutive" if the hero tries and fails, and "revolutionary" if the hero tries and succeeds, which relates to the dramatic concepts of tragedy (trying and dying) and comedy (trying and succeeding) in the Aristotelian sense.

The mobile character leaves the room, or at least he or she tries. On his or her way to overcome the border, the hero faces obstacles.

The obstacles can be so substantial that it is impossible for the hero to cross the border. The hero may die (physically or symbolically) in the attempt to make it from the original field into the anti field.

If the hero manages to cross the border, she or he has to merge with the new room, and will now become an immobile figure. The transition from a mobile to an immobile characters marks the end of the story. If he or she does not merge with the new space, the story has not come to an end yet, and border crossings will have to continue until the mobile character has become an immobile character.

Characters in rooms do not perform aimless movements. Lotman describes rooms, or spaces, as hierarchical, and distinguishes certain elements as the highest-ranking. High ranking elements can assume the function of a topographical property. Examples of topographical extreme points are main streets, town squares, towers, mountain peaks, canyons, the abyss, but also interior elements like the TV, the fireplace, and the dinner table. All these examples serve as power centers of the room.

Taking its cues from Lotman, narratologist Karl N. Renner suggested that all character movements within the hierarchal space are oriented towards the to "extreme point." Extreme points are high-ranking elements that set the rules of that space. All other elements gravitate towards the extreme point (Renner, 2004).

Non-topographical elements may also structure the space, and serve as extreme points. These are the extreme points of social space, for example, the position of a head of the family.

When designing or analyzing space, the extreme point is based on the question of who or what owns or rules the space. Then, two complementary patterns of movement can be identified: in one case, the direction of the character's movement changes once he or she has reached the extreme point, and the character leaves the space into which he or she has entered. The extreme point here marks a turning point in the story. For example, the character is having an argument with an abusive boss, quits the job, exits, and slams the door. In the second case, the movement of the character comes to a standstill when reaching the extreme point, and the character assumes the status and nature of this space (the hero kills the evil magician, and takes his throne). Here, the extreme point is the end point of the story.

3.4. The Seven Step Algorithm of Spatial Story Design

Story design based on spatial semantics takes the following steps:

Authorship begins with the design of a specific setting. How does the author characterize the semantic space, topology, semantic

properties, meaning, topography – intellectually and aesthetically? What chronotope or heterotopia forms the setting? What are the norms and objects of this story world? What is the order of things?

1. The author or authors place specific objects and subjects at the place, and hereby gain some control over the affects of the user, and the promised narrative, inherent to the symbolic language of the space. In this context, the ideas and insights developed in the field of affect theory will prove to be essential, to help to understand how affect and emotion of the user can be directed by and through object making and object interaction.
2. The author controls and designs entrances and exits. The authors design the rituals performed to allow a character or player to exit, or enter.
3. The authors create immobile characters, and room for mobile characters.
4. The authors create norms, boundaries, and extreme points.
5. The authors design obstacles – topological and social.
6. Based on the properties and characteristics of the foundational space, the authors create disjunct subspaces and anti fields, potentially in indefinite numbers, and potentially in collaboration

with the users, like in reality based environments, or massively multiplayer online role-playing games (MMORPGs).

Usership and Conclusion

The seven step spatial design process privileges co-authorship over single authorship, can be used to create 360° narrative, walk-in story world experiences for a number of users in either live or holographic virtual reality spaces, and may also serve as a framework for interdisciplinary collaborations.

Digital filmmaking today doesn't comply with the traditional linear work flow of story development, preproduction, postproduction, and distribution, but rather follows the iterative design process. Consequently, the former division of labor between the departments, especially the line between writing the screenplay and realizing the screenplay, has blurred.¹ Screenplay development and film development have merged, and involve nearly every department. Spatial story design may close the common gap between writers whose thinking is quite often informed by the linearity and chronology of a written text, and their collaborating creators who think predominately spatially. In film production for example, where production designers design the sets, the DOP assembles the room through different camera angles, the director navigates the characters through space, the editors re-assemble the spatial aspects, and so on, all departments

may contribute with their specific areas of spatial competence to the story development. Story development would then include every department from the beginning, and interactive narrative interventions could also include the user, formerly known as the audience member.

In 360° film making, the viewer cannot interact with the subjects and objects of the story world. Most experiments in 360° fiction narrative film that aim to create an immerse experience, fail to overcome the narrative oddities of a forced POV perspective that explains why the viewer is barred from (inter) acting with other characters – such as being chained, in a coma, or hidden in a closet – for the entire film. The misunderstanding I believe lies in the assumption that an immersive 360° narrative visual experience has to be also an experience of dramatic identification of the viewer with and as the protagonist of the story. Instead, 360° narrative visuals work best for an observer, a non-identified viewer which is maybe why 360° films are most successful in non-fiction storytelling like documentaries, concerts, or sports events. Here, the concept of spatial story design can be used as dramaturgy to structure real live events. Instead of arbitrary recording, the seven step algorithm can be used to select and design place and object, and to analyze, emphasize, and utilize its semantic properties. Intelligent film design allows the filmmaker to respond to the way the user navigates and perceives the story world. The viewing devices record and remember what the viewer has already seen, and now redirect the viewer's attention through

audio cues, audio volumes, object placing, and moveable character action in relationship to the extreme point.

Spatial story design may also help to design a narrative experience in VR environments, and to create holodeck cyberdrama as described by Janet Murray (1998): “A world we can enter, manipulate, and observe in process. We might therefore expect the virtuosos of cyberdrama to create simulated environments that capture behavioral patterns and patterns of interrelationships with a new clarity.” In cyberdrama, the heterotopian laws of everyday life apply. The authors of cyberdrama will create a specific order of things, and have full control over the spatial design, the social order, the exit and entrance rituals, and the placing of affect-laden objects. The authors may also create anti-fields for other users to enter the cyberdramatic holodeck from the (semantically speaking) opposite direction that are designed to create conflict – the heart of drama. Just as Hamlet makes decisions, the user will make decisions, within the restrictions created for the narrative semantic field, and be able to “enact the contemporary human struggle to both affirm and transcend our own limited point of view” as envisioned by Janet Murray.

Endnotes

- 1 A process also described in the analysis of machinima as digital filmmaking by Davis et al. (2013).

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**WHERE GOOD OLD
CINEMA NARRATIVES
AND NEW MEDIA
COLLIDE**
NATÁLIA FÁBICS

Abstract

Based on the study of contemporary action/fantasy/horror blockbusters adopted from video games, with a special focus on *Assassin's Creed* (Kurzels, 2016), the paper examines the influence of new media, and especially video games on contemporary cinema storytelling, with a special focus on how they reshape narrative structures and logic through adding a novel spatial dimension and incorporating a new form of reality based on the rules of video games. This reality of imagined spaces create a narrative that from many aspects break away from the rules and the logic of a more 'tightly-woven' storytelling, and – among many other things – introduce the presence of the non-present, unfold their plots through discovering the unknown spaces of imaginary universes. While this 'new real' is emerging in contemporary cinema, as the present paper will argue, in years to come it might easily become a set of 'new rules of the game' for a film industry targeting a new generation of movie-goers who grew up with touchscreens and apps, and are just entering their teenage years.

Position Statement

With the mainstream film industry targeting a new audience of young movie-goers who are just entering their teenage years now, new media, and especially video games have an increasingly deeper and more significant influence on film narratives, as well.

Where Good Old Cinema Narratives and New Media Collide New Film Narratives for a New Generation

Ever since the beginning of the 1990's when the very first cinema adaptations of successful video games premiered with Super Mario, Mortal Kombat, and the like, the influence of the two media on each other has been one of the most exciting topics to be discussed by film and media scholars. Very different aspects have been and will be studied from visual style, through hero archetypes, to intertexts, and so on. As a result of the crazy speed of technological developments changing our everyday lives with smart phones and tablets, the emergence of the internet, and the like, this mutual influence is so intensely present that it has become more and more difficult to even trace its representations. The ever-increasing pace of changes also results in a growing gap between generations: in how they use and understand technology, in what is natural, almost “in-born” knowledge for them. The very first iPhones were introduced and

made commercially available in 2007, meaning that those for whom the touchscreen and the logic of iPhone apps are integral elements of their everyday experience are already starting their teenage years, and becoming the freshest target audience for the action and fantasy film industry, especially because, according to research, video game fans seem to be more enthusiastic movie-goers than the average population¹. And that is and will be resulting in many, many enhancements of yesterday's blockbusters of these genres, reaching far beyond the cinematic adaptations of video games.

In the present paper I am exploring one field of these enhancements: how the spatial dimensions of storytelling brought along by the new media, especially games, reshape the narrative logic of present-day Hollywood fantasy, action, sci-fi, horror (and their mixtures) blockbusters, and create 'new rules of the game' for the film industry. While mentioning several other contemporary examples, my focus is one of the most recent video-game-universe-turned-into-blockbusters, *Assassin's Creed*, directed by Justin Kurzel, premiered worldwide during the Christmas holidays in 2016. The franchise (by now consisting of nine games, several comics and novels, and, of course, the Hollywood film adaptation discussed here) is based on the widely successful action-adventure video game series of the same name, the first piece of which was released in the very same year as that above-mentioned first iPhone.

The Narratology Debate

When talking about the influence of video games and new media in general on contemporary cinema, or even when studying the world of video games and gaming, most film scholars rely on their usual film studies methodology and vocabulary. A natural theoretical basis is, of course, narratology. It is widely accepted in film studies that cinematic storytelling has in the past few decades become rather complex in mainstream cinema as well. Elsaesser (2009), Bordwell (2002), Branigan (2002), Panek (2006), Cameron (2006), and many others, have been analysing and discussing the complexity of contemporary film (and television) narratives, offering different categorisations and theories. Due to their narrative complexity, video games seem to be irresistible for most of these scholars, and they cannot help examining them from their film studies, more precisely narratological perspectives.

On the other hand, most of the theoreticians arriving to the discourse from the world of games harshly criticise the study of anything related to gaming with the methodology of traditional narrative media, like films, novels, or even comic books. Instead, they highlight the importance of researching games as a different, non-traditional medium, and the development of new methodologies and a new vocabulary. Already at the very end of the 1990's, Gonzalo Frasca, game designer and academic researcher of games went so far as

to develop the concept of ludology, i.e. the study of games, as a new discipline. From this, the so-called 'Ludology vs. Narratology' debate has evolved, as Pearce (2005) and Juul (2004) described in detail, where 'ludologists' say that games can not and should not be handled as stories, as in their case the player is actively present in the process, making it a whole different experience. As always, there is a golden mean, suggesting that there is not much sense in separating scholars, and it does not help the progress of the field at all. The different approaches should help each other and open windows on ideas one might not consider from his/her own perspective. It is especially so when analysing cases that are more or less mixtures of films and new media, for example film adaptations of games, or the type of new indie games that no longer rely on the basic concepts of video games, like winning/losing, dying, killing, et cetera, they tell a story instead through giving some interactivity to the player (more about this type of games later). So when researching for the present paper, especially the ideas presented in the writings of Juul, as well as discussions with young players of video games, have helped me see and understand a certain circle of contemporary blockbusters from a different aspect – films that I loved to hate and could not figure out with my film theoretical approach based on good old cinema narratology.

The Reality of Imagined Spaces

In his 2012 book, titled *As If*, exploring the historical background of imaginary worlds in Western culture, Saler talks about “the emergence of a culture of imagined spaces”: according to him, it is nothing new, but began at the end of the nineteenth century, when Sherlock Holmes pioneered in attracting a fan base of long-term and in-depth immersion in his imaginary universe. As Saler describes, when people are searching for new imaginary places, it is not about escapism, but rationality is taking over, the created spaces are the expansions of the real world where, for example, important – and very mundane – issues can be discussed. A similar rationality can be traced in many of the recent fantasy and sci-fi blockbusters. The universes might be conceived as the fantasylands of creative minds, but the narratives operate on the basis of very realistic principles. True, these might be difficult to be handled as ‘reality’ by the generations that grew up in a world where computer programs, the internet, gaming, and the like were not part of the ‘real world’. Yet for the teenagers of our times – even for the Millennials –, the main target audiences of the blockbusters the present paper discusses, reality is a different, far more flexible concept.

This reality of imaginary worlds is a concept embraced by game theorists, as well. For example Juul (2004) says that the sole fact of winning or losing a game is reality, so are the rules of the game,

thus creating a mixture of reality and fiction. I would like to take a step further from there, and suggest that we are actually facing something more than a mixed world where reality and imaginary can clearly be differentiated, but as reality (based on Juul, the rules and the winning/losing) forms the structure of these imaginary spaces, where this-worldly issues and matters are handled (see Saler above), we have a new reality, the reality of imagined spaces here. And this space has new rules that are not less real than anything we experienced before, but real in a new sense. It is this 'new real' that influences contemporary cinema as well, even changing the traditional logic of the narrative, most evidently – as we will see below – in contemporary action/fantasy/horror blockbusters, especially ones based on video games, while in years to come the influence is very likely to be much more widespread.

In the next paragraphs I explore some of the elements of this 'new real' that is the holder of the 'new rules' of the cinema game: a novel approach to handling space adapted from the visual design and the narrative logic of video games, the enhancement of the main character with the role of the 'player', and the presence of the non-present spaces and objects, ones that we never see or are told about before they appear and change the course of events, have – for the young generation – the same quality of 'being there' as spaces and objects we actually see in the films.

The Intertwining Space of Real and Unreal

While it is clear that the entire *Assassin's Creed* film takes place in an imaginary world, neither the present nor the past storyline is real, several elements of the story and the visual presentation add a touch of reality to the film. The dates of the two timelines (1492 and 2016) already suggest that these events could/can happen for real. 1492 is an important year in Western history that every schoolboy knows by heart, and Christopher Columbus existed for real; using the very year of the premier of the film as the other timeline, give the somewhat conspiracy theory like feeling that the Abstergo Foundation could exist for real, the entire Templar malicious intriguing could actually be happening right now, in the very real space of present-day Madrid, Spain.

The visual design of the film gives an interesting twist to these realistic foundations, a twist that I consider being part of the 'new real' I am tracing in the film. While a lot of CGI is used when creating the worlds of both timelines, the visual presentation of the 1492 Spain and the actions taking place there is based on video game aesthetics, especially familiar for the players of the *Assassin's Creed* franchise (and of many other, similar games of today as well). The set and costume design, the camera movements, the placement of the camera, or the many bird's eye view shots looking through the landscape and the background of the action sequences about to happen make these

parts unmistakably game-like. At the same time, the 2016 timeline is rather careful with using camera movements and editing typical of games, and even content-wise strives to function as a proof of the reality of the plot: for example the weapons used in the 1492 timeline are on display at the Abstergo Foundation of 2016.

An especially interesting element of the earlier mentioned video-game-like visuals is the use of the eagle whenever we (more precisely Cal, as the player playing this game instead of us, in a way our avatar, but more about this in the next chapter) enter (fly in) the universe of 1492. Each of these entries, and several other shots taken from a bird's eye view giving an unmistakably game-like feeling to that timeline, literally show a bird, an eagle flying over the land – we/Cal actually “fly” behind it. I asked players of the game if the eagle had any special role in the game, and they said it is there in the game with no assigned role or function. The only thing that is somewhat related to it is the so-called eagle-vision mode making the player capable of seeing through walls, or any object, and see where the enemies are positioned. Using this mode the player can mark the positions of the enemies, and use this info later on when he/she switches the eagle-vision mode off and gets into fight. But the eagle and its point of view will be important in the next version of the game coming out during the autumn of 2017 (i.e. almost an entire year after the premier of the film). In the new version, the player will be able to look over the land from the point of view of the eagle, thus exploring the space before entering it for the next

fight. Could it be that the film influenced the development of the game? If yes, at least the use of the eagle was not in vain, as in the film, the only explanation I have been able to come up with was that the filmmakers wanted to make these shots more realistic for the audience, which I consider a rather unnecessary idea: it does not make the shots less game-like, not to mention that similar shots have by now become almost stereotypical in films of similar genres.

Whatever the aim of the filmmakers were by creating this intertwining space of real and unreal, the outcome also supports, what is more constructs the foundation for the concept of the 'new real' presented in the circle of the films the present paper examines.

The Player as the New Hero

One of the reasons why I decided to use Assassin's Creed as the film leading us through the present paper is that I consider it a very special movie among game-based blockbusters (and evidently among action-fantasy-sci-fi blockbusters as well). The most evident element differentiating it from similar movies created in the past couple of years is how the two worlds of the film, the present-day (2016) Abstergo Foundation in Madrid, Spain and the Andalusia, Spain of 1492 (time of the Granada War) are connected. The main character, Callum (Cal) Lynch (played by Michael Fassbender) is attached to a machine called Animus based on the fact that he is the descendant of Aguilar (also

played by Michael Fassbender) and using their similar genetic codes he can relive his predecessor's genetic memories and help solving the problems of today.² Cal is the player, the avatar of the viewer in the film. He is attached to Animus, which is – regardless of how cool and complicated it looks – basically a game console. He jumps, runs, hits in 2016, but the effects of his movements are in 1492, and so are the causes of his physical actions.

Attaching the role of the player to the main character of the films discussed in the present paper, is a very contemporary method of helping the spectator identify with the hero of the film, which has become increasingly difficult in the case of action, sci-fi blockbusters like *Assassin's Creed* for that matter. The now young generation of video game players is used to far less points of identification than the older generations of mainstream cinema audiences. Characters like Callum Lynch do not have to be multi-layered, not much needs to be told about them, they are above all tools of the real-world player for entering the universe of the game, and to explore its spaces, learn its rules and achieve its goals.

We have had films (game related as well as not) where the main character can easily be interpreted as a player fighting his/her way through an imaginary universe, and the story unfolds through our hero discovering an unknown space. Just think of titles like *The Maze Runner* (Ball, 2014) that even though based on a young adult dystopian novel has a very strong game-logic in its narrative: the

main character, Thomas is “pushed” into an unknown world pretty much like a player “jumping” into a new video game, and the plot is led by discovering the unknown spaces of this world mostly through actions (very few and very, very vague info is given to him by the other characters/players). Its sequel, *Maze Runner: The Scorch Trials* (Ball, 2015) also followed a similar narrative technique, and we are soon to see if the third part of the franchise, *Maze Runner: The Death Cure* (Ball, 2018) will also keep to the successful and trendy recipe. Another young adult dystopian novel based trilogy³, *The Hunger Games* (*The Hunger Games* [Ross, 2012], *The Hunger Games: Catching Fire* [Lawrence, 2013], *The Hunger Games: Mockingjay – Part 1* [Lawrence, 2014] and *The Hunger Games: Mockingjay – Part 2* [Lawrence, 2015]) also features similar characteristics even if not through the entire movie, only in the action scenes. Another fine example, this one from the world of 18+ movies (that are evidently seen by a significantly younger audience as well) is the *Resident Evil* franchise⁴, where the different spaces of its dystrophic universe filled with zombies unfold for the viewer just like different levels of a video game as we accompany the player (the main character, Alice played by Milla Jovovich) in her discovery mission of trying to escape the zombies (and as a side-business, saving humankind from complete extinction). But these do not highlight the player quality of the main character, while Cal is very physically assigned this role with the Animus functioning as a gene-based game console⁵ taking him to the space of the *Assassin's Creed* game and offering him the tools to play there and win.

This winning and losing, and in the process learning the rules of the game takes us back to the afore discussed concept of the 'new real' in this circle of action blockbusters. In *Assassin's Creed*, just like in all the films I listed in the previous paragraph, the main character (and with him/her the audience) has to learn the rules of the game in order to win. And he/she has to win. As interestingly, in the majority of the discussed films (Thomas of *The Maze Runner* being the most "selfish" or small-scale hero among similar characters of the past decade or so) nothing less, but the fate of humankind is at stake.

The very physical presence of the Animus in the film adds one more dimension to the 'new real', which is further strengthened by the narrative. Unlike the original games, the film keeps dragging back the viewer to 2016, in most cases only for a few seconds; he or she is not allowed to spend more than a few minutes in 1492 at once. As if the script writers wanted to make sure the audience keeps both feet on the ground, in the 'reality' of 2016, and never forgets that with Cal, the player who plays this game instead of us, we enter the imaginary universe only temporarily, and we should never get immersed in it completely.

The Presence of the Non-Present

I have recently heard a 15-year old arguing the superfluity of the presence of objects around us, giving the example of the light switch.

He said it should not be there 'for real', but hidden in the wall: in its presently used form it is totally useless, does not look nice, and, by the way, does not have to be there all the time, as we actually need it only during those few seconds when we switch on or off the light. When asked how we would know where the light switch is, if it can not be seen, he answered in a most natural way: "you just try it". A few days later when rewatching *Assassin's Creed*, and trying to get over its narrative inconsistencies, among several other elements of the film I had found disturbing, all of a sudden that light switch argument unravelled some of the mysteries of the film. For example, when the main character, Cal Lynch/Aguilar shortly after waking up in the Madrid facility of the Abstergo Foundation escapes and runs to the edge of the giant garden/balcony of the building, one of the inhabitants (Moussa) tells him to jump, it feels logical – and very real – that he refers to committing suicide, an idea strengthening the dark atmosphere of the film and the negative aura of the main character. Of course, we know he will not jump. A bit more into the film, when Cal Lynch/Aguilar is back in 1492 and is chased to a rooftop, when getting to the edge of the roof, he jumps. A viewer trained on decades of cinema gets puzzled. He should not jump. Not only we have not been told that in certain cases he can safely jump from the highest rooftops and fall into nothing, but the aforementioned scene even stresses that jumping from rooftops is just as dangerous in this universe as in most of the other ones. Later on we are told that it is the so-called 'leap of faith', meaning a signature feature of the game the film is based on: a jump the player can safely

take and survive. In earlier versions of the game you could jump when there was a haystack, in the most recent ones, you just jump. With my classical narrative logic, the script is not all right here. As said before, you can make your main character jump a lethal looking, yet safe jump, only after you've shown, said, explained, whatever, that it is safe. All of a sudden I realised it was the reality of the non-present light switch. If you are a player who is in his teenage years in the end of the 2010's "you just try it".

Cal/Aguilar did the 'leap of faith' without him or the audience knowing he would survive it, more precisely those members of the audience (like myself) who never played Assassin's Creed. Those who did – supposedly the main target audience – had no problems with this break in the narrative logic. I guess, those who never played Assassin's Creed, but have played similar games, have no problem with the jump either. When talking to a 9-year old about his present favourite game with Captain America as a central character, I asked whether Captain America ever dies. He responded: where? I got puzzled, as I did not understand what he meant by 'where'. He patiently explained that in the game he dies all the time, but in the films he never does. He even reassured me that I should never worry when watching a Captain America movie or any similar one, as heroes like him never die: "you know, that's a rule in films". Without knowing it, he stated one of the most classical rules of mainstream cinema: the active, good, main character always wins his/her reward at the end, so he/she cannot die in the process leading there. I

know the rule, just like him, and I am never worried about Captain America. Still the Assassin's Creed jump confused me. The reason is that even after watching the entire film, I did not know the rules of the game – I did not know the 'new real' created by the game. Only after reading, talking about the original games, did I start figuring out the 'new rules'.

The list of 'new rules' of the game called cinema is rather long, and is continuously growing as its contents are becoming the structural elements of the 'new real' in films. One of the most conspicuous novelties is related to the classical rule just mentioned, i.e. that the main character, the active hero never dies. It is being overridden these days in a most tricky way, evidently as a result of adapting a video game logic. In films like the action/sci-fi *Edge of Tomorrow* (Liman, 2014) or the upcoming horror *Happy Death Day* (Landon, 2017), the main character dies worse and worse deaths, only to get back to square one again and again, and learn the 'rules of the game', thus becoming a good 'player' who can eventually win the game. In these films death is not present in a traditionally unrealistic way, yet now it is part of the 'new real' borrowed from the reality of games.⁶

The use of non-present physical objects and equipment of unclear functioning is another influence on the narratives of the examined films. In mainstream games like those with Captain America, you have some clues where you should look for the non-present objects, tools that lead you through the game. A certain trend of indie games

depend much more on the skills of the players, and in games like *Gone Home* (The Fullbright Company, 2010) and *Inside* (Playdead, 2016) players are allowed to rely much more on the long years of playing video games to explore their universes. The *Resident Evil* film series is a very impelling example for this trend of reliance on non-present objects in the twists and turns of the plot evolving in mainstream cinema as well: this new narrative approach is present even in trendy, teenager murdering film franchises, like *The Maze Runner*. In the most recent piece of the franchise, *Resident Evil: The Final Chapter* (Anderson, 2016) one of the ways to replace the too well known, thus no longer frightening zombie actions is the reliance on spatial narrative. The second part of the film takes us back to The Hive, where instead of the zombies and the frighteningly disgusting and ugly creatures of the previous films, it is the non-present elements of the building – corridors that open up from nothing, killing laser that is not there, glass cages covered in blood, the functioning of which is never explained, and so on – that side-track the story, kill dozens of the supporting characters, and horrify the audience.

On the other hand, as discussed earlier in the paper, the *Assassin's Creed* movie – even though filling the plot with unexplained elements – is centred around the very realistically and physically present Animus, as its writers seem to have felt the need to keep at least the method of the jumping between the past and the present of the plot clear, and “realistically” connect the two timelines with the – otherwise unclearly functioning – game console called the Animus.

Yet, as we have seen, all these dark spots in the narrative are not disturbing for the young generation of players, as they understand the logic of the connection between the two timelines and their spaces, and that understanding is based on a very flexible relation to the 'new rules of the 'game', the foundations of the 'new real'.

Conclusion

A 2007 study carried out by researchers (Damien, Jessel, Methe & Molinier) of the Université Toulouse in France, examined 19 narrative games with the aim of exploring the relations between narrative and video games. They defined two forms of storytelling, 'time-based' and 'space-based'. For the first one they gave movies as the most evident examples, while the second is typical in comics and books, as "reading" them is based on the movement of the eyes. In the case of video games either or a combination of the two can be traced on the basis of their research. They also add that in the space-based storytelling of games the player is "projected in a space, he is usually free to move through his inputs". In their paper titled *Interactivity: Storytelling or Storywriting? A closer look on videogames and narrative* summarising the findings of the research, they consider games to be the genre capable of combining the two. In my opinion the films I have discussed in the present paper and many more similar contemporary films (and even more to come) try to prove them wrong. They aim at finding a cinematic way of adding

spatial storytelling to their time-based narratives, thus reacting to the expectations and the aesthetical taste of a soon coming-of-age audience of players and youngsters growing up in the reality of new media, while also satisfying the ever present hunger for novel directions of film makers.

Similar au current directions are certainly present in the video game development world too. As video game players are maturing and quite a few of them search for pioneering games that set the future directions of game development, the logic of the 'new real' is present in several contemporary indie games as well, the field where coming of age players tend to find the exciting novelties they are searching for. As one of my students⁷, a player since early childhood and an animation artist creating amazing universes for games, explained me, for him and a growing number of young players, some of the most exciting games are the ones in which you are actually participating in a storyline. There are clues hidden in the space of the game, and you look for them. Mostly it does not matter what order you find them, nor if you find each of them. You do not win, nor lose; you do not kill, nor get killed. For a film scholar like myself, it is a most exciting direction of cinema. In a world where having an almost cinema like experience at home is not impossible at all, a game with a narrative where the entire story was created by the makers of the game, and the player has very limited possibilities to have any influence on the development of the story, in my eyes, is a film; more precisely a new, and very interesting direction of cinema,

or – borrowing Truffaut's term –, a “certain tendency” in cinema. This “certain tendency” embraces a ‘new real’ and constructs ‘new rules’ to satisfy a new, now teenager and even younger generation that has very different expectations, has a very different approach to media and art than anyone before them, even those only a few years older than them. And this, I am convinced, will change how we develop film narratives, how we create imaginary spaces, times and fantasy worlds, already in the very near future.

Endnotes

- 1 As Lieberman (2017) summed up a survey undertaken this April in the US by Warner Bros-owned gamer programming company Machinima, all of the 2,051 – mostly male – participants of the survey “go to the movies at least once a year vs. 71% of the entire population. Some 17% of gamers see at least 12 movies a year, compared with 11% of the general population, and 83% see between two and 11 movies a year, vs 60% of the entire country”.
- 2 Without getting into details of the film's plot, the premise of the movie and the entire *Assassin's Creed* universe is that there are two ancient, rivalling secret societies, the Assassins and the Knights Templar. In the present-day world, the latter founded the so-called Abstergo Industries operating Animus, with the help of which the Knights try to trace different historical artifacts, called the “Pieces of Eden”. Only one of these, the Apple, the object controlling humanity's free will, makes it to the 2016 film adaption – Callum Lynch, a direct descendant of the assassin, Aguilar de Nerha, who is the very last person known to have possessed

the Apple, is the main character who is hired/forced to find it, by tracing the genetic memories of Aguilar through the animus.

- 3 It premiered in four parts, but actually it is three movies, with the third one divided into two parts.
- 4 *Resident Evil* (Anderson, 2002), *Resident Evil: Apocalypse* (Anderson, 2004), *Resident Evil: Extinction* (Anderson, 2007), *Resident Evil: Afterlife* (Anderson, 2010), *Resident Evil: Retribution* (Anderson, 2012) and *Resident Evil: The Final Chapter* (Anderson, 2016).
- 5 Of course, Animus also has its predecessors in cinema history. While the *Matrix Trilogy* is a very evident and very widely recognisable example where the video game (the entire Matrix can be viewed as a multi-levelled, sophisticated video game) and player characteristics are even stressed (for example when Neo learns different fighting technics in the twinkling of an eye), Cronenberg's 1999 body horror/sci-fi, *eXistenZ* has remained a contemporary film festival and art house cinema classic, never making it to the mainstream, yet having an evident influence on the films I am discussing here and even pioneering in the characteristics I am exploring in the present paper.

We can certainly find the use of physical objects for entering virtual space (or space of the game) in present day action films as well. An example is one of the most recent additions to the circle of films I am discussing here is Luc Besson's *Valerian and the City of a Thousand Planets* (2017), where the player status of the main character is made very evident in some parts of the film – Valerian and Laureline are special agents who enter the virtual space of the market with the use of special devices.

- 6 The rule that the active, positive hero never dies is being overridden in other forms as well. *Elysium* (Blomkamp, 2013) or *Logan* (Mangold, 2017) do not only kill the main character, who might be a tormented, suffering (dying) man, but he is a superhero who is especially good at

saving children and taking care of the elderly or women. All through the film, the viewer is sure, but at least hopes for a positive ending, as on the basis of classical cinema logic, it would be more than possible. Both films take place in imaginary universes where anything should be possible, and the heroes are played by actors (Matt Damon in *Elysium* and Hugh Jackman in *Logan*) who do not often die, no matter how bad the circumstances are. But here come further rules of the 'new real': Matt Damon and Hugh Jackman do die, even if they save half an orphanage, and imaginary worlds kill their positive heroes just the way our own world does, and will no longer use magic to make them survive.

- 7 The student is Balázs Rónyai, who just graduated from the Animation MA program of Moholy-Nagy University of Art and Design Budapest, and to whom I am grateful for sharing his experiences in gaming and opinion about indie games with me, as well as his MA thesis titled *Narrative in the Interactive Game Environment* (available only in Hungarian).

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**MULTI-TASK CINEMA,
OR A “WHATEVER
STYLE”**

PAULO VIVEIROS

"Making a blockbuster provides kind of an indulgence... we shot excessively, we are able to see big sets, use different film languages, putting shots together, weird lenses... Actually, it gives you more freedom. In a smaller movie you cannot afford that kind of freedom in creating images"

Ang Lee

This text seeks to reflect upon the impact that new imaging technologies — from video introduction to computers dependency — have had on more recent generations of cinema, and its effect on film language. The context of the analysis is North American cinema and the Hollywood industry in particular which, as a large production system, absorbs and transforms technological novelty in order to enlarge the scope of its action (in line with the idea of general audiences and the phenomenon of globalization which loses its cultural specificities). From the cinematographic point of view, the immediate consequences of such impact are felt in film language rooted in classical narrative, with particular focus on action and science fiction films; and, from a cultural standpoint, how they precociously manifest themselves in school movies done by a generation with a visual culture also marked by music videos and YouTube cultures.

Two points motivate the analysis that this text intends to conduct: on the one hand, the lightness and portability of image capturing equipment with increasing quality, whose dissemination created a more immediate (for instance, the independent genre mumblecore in the USA) but also light cinema. It requires less editing, or editing with self-contained shots which are no longer based on the invisible

editing of classical language. On the other hand, the use imaging software, characteristic of new generations, increased the presence of visual effects in films, which portray themselves as showcases of high-tech, attractions that interrupt the linear narrative.

Despite these significant changes to the modes of production and direction, there are authors that while recognizing these changes in the filmmaking process, still maintain that these do not jeopardize Hollywood's film language system. David Bordwell (cf. 1985, 2006), who has accustomed us to brilliant analysis of the "Hollywood Style", from the classic to the contemporary, is an example. From the "excessively obvious cinema" of the Classic Period remains the overly predictable stories and its heroes, villains and love tales. But the way of telling the story has changed. The character-driven classic no longer exist. Characters with psychological density disappeared, perhaps due to the disappearance of a generation of screenwriters who wrote from a literary culture¹. In its place, a new plot-driven logic arose,² of which the heads were directors from the Movie Brats generation. They applied their cinematic culture to the blockbusters, which acted as a showcase of new film technologies and use of visual effects (for this reason, nowadays, the sequels and prequels of many movies are the *modus operandi* of Hollywood, because technology evolves very quickly). Finally, with the generation of David Fincher, which experienced a music video and advertising-based learning, as well as from the experiences influenced by Oliver Stone's video (in *Natural Born Killers*), we are dealing with a new type of visual effects-driven film.

1. Syntax problems

Since it became clear to Hollywood that its success among the public would have to go through telling simple and linear stories without ambiguities, so that movies would be understood — in other words, so that the spectator would only concentrate in the story being told through the screen of new media — it had to find a formula: a syntax that would turn the technologic device transparent in order not to distract the spectator with style or technical artifices.³ D. W. Griffith is unanimously considered responsible for that when claiming that he wanted to tell stories with film in the same way Dickens told his through literary writing.⁴ Griffith had the chance to test that formula during the years he worked at the American Biograph. We can sum up his procedures in the following way: actors directing in a way they would interact between themselves and not with the camera (hence the prohibition of the actor being able to look at the camera); the interdiction of the cut midst the camera movement (which was not very used) in order not to interrupt the movement; the scarcity of extreme close-ups, so that the spectator would always have the background to spatially place the scene; the placement of the camera in the exact angle to retrieve the largest information possible from a scene. All this accordingly to the continuity system, supported by the connection between movement, gestures and glances through editing. And always with the intention of not confusing the spectator and make him understand linearly and chronologically the story in space and time.

For example, each new scene or change in scenario begins with an establishing or full shot (depending on whether it is an exterior or interior shot) to place the spectator in the action space. Only from this point on, the camera comes closer to the characters' action until its climax, moving away again to allow the shots to breathe. In the sequentially filmed dialogues a shot reverse shot in a 180 degree line is used. As the shot is a means of situating actor and spectator in time and space, it inherits the central vanishing point placement from the Renaissance ⁵ that has been translated into cinema's rule of thirds which divides the screen in nine parts, being the central part occupied by the hero/leading actor. This gives rise to an invisible editing due to match cuts linearity, even when we see alternate and parallel action lines of hero and villain which occur up to a certain narrative's moment in different spaces. The villain is always in a different space until the hero gets him and then two action lines converge within the same space.⁶

The success of this operating system is revealed in its entire splendor in Disney's studios animation, when Walt Disney reaches "the illusion of life" through drawn movement, which gives life to animal characters with human-like behavior. So, in Hollywood, all of this system's subversion can be allowed only in comedy,⁷ science-fiction imaginary worlds (in which the narrative is able to slow down to be fascinated with fantastic extra-terrestrial scenarios and special effects), or in musical's fairytale moments, in which the narrative stops to leave space for the choreographies' visual attraction (as in Busby Berkeley, for example, with their bold camera movements).

Bordwell, in his 2006 book, spoke of continuity system intensification in the 1960s and 1970s.⁸ A possible explanation for the changes in Hollywood's classical languages may be the competing media of television and its images of war (first from Korea, then Vietnam) and of real situations. Images of violence which escaped military sensors, contaminating cinema's imaginary and subverted its romanticized fiction—still far from TV's unveiled morbid interests. This influence was felt in Western in particular, the great North-American genre which encapsulated the country's development history. In westerns, the action scenes have transformed into carnage, of an increasingly explicit violence, as in *The Wild Bunch* (1969) by Sam Peckinpah, on the frontier between western and war film. This has resulted in stories, and consequently, characters' impoverishment. Characters lost their psychological density as they became onlookers of situations aimed at a visual show.⁹ The emphasis on action instead of characters made movies more plot-driven than character-driven. The immediate consequence of such turnaround can be seen in a shortened average shot length and in a harmed match cut, replaced by recurrent jump cuts in its continuity. But video technology, another novelty at the time, has also affected classical syntax's sequence and linearity, with its overlapping and incrustation effects and with split screen frequently replacing parallel and alternated editing and shot reverse shot as in some sequels of *The Thomas Crown Affair* (1968) by Bob Rafelson, for example.

Notwithstanding the intensification of the continuity system (even nowadays with the increasing use of single shots — disconnect-

ing space relationships between characters and spectators) David Bordwell believes that the language hasn't changed: it just became more extreme. In theory, as regards the argument that Hollywood could not let go of such a successful model is still strong and legitimate. After all, the stories remain predictable¹⁰, but as we'll see in a moment, there are some examples where we cannot talk of syntax evolution, but in its transformation. We understand that for a system to remain active it has to adapt itself to new realities, and filmmaking professionals and the audience from the end of the second decade of the 21st century didn't get the same training as the ones from Hollywood's Golden Age. If the 70's cinematic generation knew all about the television, and if we picture a spectator watching a cinema screen and a television monitor simultaneously or randomly jumping from one to the other, it is justifiable that intensified continuity might have splitscreens and jump cuts and that it might arise from the continuity system. Nowadays, means of attention decreased due to the multiplication of reduced format screens in front of us, but also due to its content, in which linearity gave rise to the flash of light and colour and the pop-up¹¹.

The characteristics that Bordwell points out and that define the intensified continuity are relevant, and there is no question of that whatsoever. Bordwell is a brilliant analyst but the perplexing aspect about his analysis is, I insist, that he states that there is continuity between this and the classical syntax. The evolution of language requires an improvement of its syntax, rather than trivialization and

abandonment. If Noel Carroll had said Movie Brats' generation adopted the cinephilia instead of the Bible and literature as cause for their movies ¹², today we can hardly see any traces of «cinema's maturity» in films coming to movie theaters and to the imaginary of a younger audience. In November 2004, at the Dodge College's masterclass at Stanford University, William Friedkin said, with a mixture of humor and concern, that Hollywood's young directors spent all of their films' time looking for the shot. It is a relevant statement of a contemporary person from the Movie Brats' generation, but who went from television to cinema.

Bordwell analyses the transformation – not the disruption, I insist – of the continuity system through four procedures on which intensified continuity is based, whose origin dates back to the end of the 70s. And my main point is this: if films from the 60s until the 90s could still relate to the continuity system, to maintain so from the second half of the 90s onwards is more difficult. It's almost as if Movie Brats were mannerists and the generation after them was baroque, because it is a question of abandonment of film language based on visual culture acquired in the Renaissance and its classical composition. The first example is the fast cutting that reduces the average duration of a shot, in which there are cuts during camera movements which interrupt pan-shots and overviews.

Thinking back to Thelma Shoonmaker's brilliant editing of the final scene of *Cape Fear* (1996) by Scorsese, we then noticed the intensi-

fied continuity of energy and excitement in the fight on board. But there is a justification for the camera's ongoing frenzy; the boat is uncontrolled so the camera has no stability. That is why we see the boat's outdoor scenery carried away by the river's flow. But in *Requiem for a Dream* (2000) by Daren Aranofsky, the aunt's amphetamines and the nephew's highs do not justify the hip-hop editing, as the director described it. On the contrary, Ray Liotta's paranoia caused by the use of cocaine in *Goodfellas* (1990) in the hours prior to his trip justifies the editing: the camera reflects the character's mind imagining a helicopter chase. With the arrival of digital editing software, a new editing concept has arisen; the apparent idea of which lies in its technical easiness. Bordwell (2006, p. 156) neatly quotes John McTiernan: "the AVID machine eliminated the last vestige of reluctance to cut, the cost of cutting." The fact that digital editing has made the film editor's work easier, it seems, at the same time that it took the work of figuring the editing's linearity out.

There is a link between the second change and the use of bipolar extremes of lens lengths. The ultra-wide angle lens became a trend, even if the shot's boundaries become distorted. Today this no longer is found strange, in the same way as the distorting and deforming focus done inside the shot is, too, part of the new syntax. As the tripod became an unnecessary accessory, the shot's concept is increasingly vague. And if the camera is constantly moving, very often in a long take, its lens isn't changed. What might have had a disorientation effect for

classical spectators nowadays is not even realized due to its banality. The famous focal extent in the character's entrance shot performed by Madonna in *Dick Tracy* (1990) by Warren Beatty (and the exuberant colors of the closet's clothes) were the only events remembered from the film. If, on the one hand, it is possible to understand, within this context, the depth of focus mannerisms on the *Dick Tracy* character's sensual walk (as seen through the open door by the detective sitting in his office); on the other hand, the constant changes of focus inside the shot in *Spider-Man3* (2007) are much harder to justify within the scene setting. The third is the reliance on close shots. Because there are no longer characters, only bodies, the speech became hieroglyphic: we have mouths, brows and eyes as principal sources of information.¹³ Body language was lost and the "ready for the close-up" moment became widespread. The last procedures Bordwell analyzes as typical of intensified continuity are the camera movements. With the steadycam, but in particular with the virtual camera, the camera is usually in motion. In *Rope* (1948), Hitchcock wanted to make a film in a single shot in a virtuosic performance. Gaspar Noé did *Enter the Void* (2009), a film in a single shot. What separates them is stronger than what unites them. Hitchcock was forced to cut it because of the duration of the reels, but Noé used the tricks of the virtual camera to simulate continuous movement. From the almost motionless classical camera we move to perpetual or ostentatious motion whose sole explanation is visual spectacularity. What is most vexing is the use of a «quivering-camera» always looking for the shot.

2. Visual effects-driven films

Changes in the cinematographic syntax of Hollywood's founding model reveal the current generation's habits. On the one hand, computer geeks, fascinated by scientific fiction's parallel worlds (J. R. R. Tolkien, George R. R. Martin, for example) are professionally irreproachable in the software field, and on the other hand, the skateboarder generation with their thrill-seeking GoPros (the result of which *Crank: High Voltage* (2009) is an example). The first fit in what George Lucas claims to be the painter's method. The film director is now interacting with the screen (and with the computer's keyboard) in the same way a painter does with the canvas: they come close to add a detail and step back to see the results. The post-production takes up a large proportion of movie production time, it is common to hear film students saying that any problem concerning image capturing is solved in post-production. In fact, *DaVinci Resolves*. This is a clear sign of the way computers were given a central position in films, over the camera. The virtual camera rivals the physical camera. Another example of such importance, and that was the focus of the CILECT's Congress, held in Newport Beach, in 2014, is the *Previz(ualization)*. Presently, to really be able to finance a film production, it would be better to put forward a preview made in 3-D animation of a movie scene or trailer, rather than a screenplay. No one loses time reading! These kinds of movies, which rely on computer usage, are just as important as their making-off. It is as if movies would be the way for what Hollywood truly wants to say: we are in permanent technological update. There

is no longer any possible transparency from the cinematographic device — even when the post-production effects go unnoticed, it's necessary to talk about them in the making-off. The visual-effect-driven movies require that we visit the factory to see how they were made. The making-off is a cinematographic genre and an economic product. It is the reason why we continue to edit DVDs and Blu-Ray, because films are viewed in movie theaters or they will be pirated on the internet. The visual-effect-driven movies are economic and social insights of technology. They are partial, professional uses, therefore they are clichés preventing insights coming from the outside — how can art lead to a technological accident, for instance? At the CGI, experts never think about the sensitive aspect of their imagery, only about its construction process. A good example of this are making-offs, but also James Cameron's long wait for the advancement of technology, so he could make *Avatar*; two typical cases of technological determinism. Thus, two different approaches can be articulated as follows: on the one side, what matters is what one has to say, and how new technologies can help that; on another side, technology speaks a technical language, closed to the outside, which prevents different types of speech or language. In the age of image industrialization, technology thinks in our place and we lose subjectivity.

The remake also rose to the category of genre. What is important about the remake is not its content as a traditional genre, but to see how much technology has evolved to make the same movie. It is not about being short of new ideas for a story, because, after all, Hol-

lywood only produced one: in an orderly environment, someone does something which destabilizes the initial order and an all-powerful hero arises and restores it, through a journey of chasing the bad guy and confronting him, in the last climax of the movie. In its course, some heroes fall in love with righteous girls or, in the classical era, lethal women, nowadays solely to justify the sex scenes. Added to the story's artificiality is the artificiality of the film's setting: the actors interact with the blue/green screen. It also happens that the actor's physical body gives its place to the character's virtual body in the motion capture studio. The primacy of computers and visual effects in today's cinema, reminds us of the stop-motion effects at the turn of the nineteenth and twentieth centuries. The spectator's wonder for the "animation" of things on the screen, as if moving pictures would not have been enough. The attractions of the early cinema evolved to also include a narrative, in order to win the erudite audience of theatres and operas. Cinema couldn't have remained in the popular entertainment circuit. But nowadays, with the spectacularization of life, it makes sense that the cinema would be, once again, such attraction. After all, as Thomas Elsaesser once said: "the future of the cinema is its past."

But, as mentioned earlier, there is also a skateboarder generation in constant movement which makes films as a direct consequence of this: handheld shooting, sometimes very light or virtual cameras, with skating operators. This generation justifies continuous movement, not as an experience of time length (such as slow cinema) but as adrenaline feelings. When we watch these films and their making-

off, we realize that we no longer are on the same wavelength as cinematographic realism theses. To Bazin, editing was prohibited whenever it interfered, in space and time, with the event's flow. Today we see the motion of a camera as an urgent way of capturing the action's sensations, trying to place the spectator in that experience (consider the car scene in *Children of Men* (2006).)

However this practice might be the greatest challenge to the very aspect that has made cinema mature: the off-screen. The skateboard generation has existential problems with ageing; the absence of editing is their youth elixir. In early cinema, when we moved from chase films to last minute rescue films by cross cutting two different action spaces at the same time, film came of age in its ability to suggest, by means of staging, actor's direction and editing, what could be simultaneously happening in another place. It wasn't easy to do so, because watching the photographic movement displayed on screen still caused a sense of contradiction and disbelief. Deep down it's whatever the spectator perceives, but doesn't see, because it was only suggested. Now a film with lengthy takes hampers the imagining possibility given by off screen because it limits the world to the shot. In other words, the shot becomes a formal unit and significantly self-sufficient,¹⁴ hampering the imaginary and cinema's immense suggesting power, acquired whilst maturing. Perhaps this was an effect of globalization and immediate time; space has been reduced to a single global area – without curves or hideouts – where all is permanently visible, which Paul Virilio proclaimed in his thesis

about dromology. Orson Welles said that: “a long-playing full shot is what always separates the men from the boys” (Peter Bogdanovich, 1992, 201), although present day long takes don't mean the same thing as they did in Welles' time, nowadays “the camera is likely to prowl even if nothing else budges” (Bordwell, 2006, p. 135), and “boys” are responsible for this. The Mannequin challenge on YouTube is currently an audiences phenomenon. Alain Resnais had created it at *Last Year at Marienbad* (1961) to make a cinematographic time which merged real and imaginary. But what does the mannequin challenge mean? It can only be understood, once again, by emptying the narrative and overrating the artificial. It is the “breakdown of narrative” according to Dixon's most radical position, or the fragmented and anecdotal narrative with the increasing introduction of “dead narrative spaces” so that the artificial has its cue. We went from “cause and effect” to “pause and effect” (Meadows, 2002).

This brings me to a mannerism, repressed by classical cinema in order not to distort the intended pathos in the relationship between film viewers and the film, made possible through the manufacturing process invisibility. Historically, this mannerism introduced movement in classical composition. We can see this in El Greco's long bodies and Tintoretto's perspectives, as a sign of what was to come next in painting, with baroque's curved and wavy lines, which immersed the viewer in rush and ecstasy. We will have to wait for the stabilization of cinema's digital technology (most likely it will be reached through nanotechnology) in order to evaluate if the present moment is only a

mannerist moment, or definitely the industry's entrance in baroque, more visually appealing to high-tech generations, including the implications this has for cinema. Elsaesser states that the word «cinema» does not belong to «digital cinema». Debugging gave rise to excess. Is such excessive excess, this “stylish style”, what characterizes post-classical cinema? Bordwell states that post-classical is an innovative way of maintaining the Heritage. Thus, this innovative way is based upon an expressive decoration (visual effects); basic and stereotypical stories; characters' loss of psychological density, loss of quality dialogues and director's visual acuity, incapable of exploiting a fixed shot to reveal relevant information. An intensified continuity is made by, and targeted at a hyperactive spectator, who can no longer focus. Never before have so many cases of dyslexia, ADD and epilepsy been diagnosed among younger generations. Intensity and saturation cause epilepsy, but as Bordwell puts it: “the triumph of intensified continuity reminds us that as styles change so do viewing skills” (Bordwell, 2006, p. 184). Can we, then, have peace of mind?

Endnotes

- 1 Some of them are writers like William Faulkner, for example.
- 2 Thomas Schatz suggests that after the 1970's films became “*increasingly plot-driven, increasingly visceral, kinetic, and fast-paced, increasingly fantastic (and thus apolitical), and increasingly targeted at younger audiences*”. Cf. “The New Hollywood” (1993), p. 23.

- 3 This is the “maturity principle” of the cinema when it abandons the “watch me move” attractions for the art of moving image able to tell a story in a “transparent” way.
- 4 This Victorian romance influence in Griffith’s cinematographic syntax became famous in Eisenstein’s Essay, “Dickens, Griffith and us”, that relates the north-American Director method with soviet filmmakers from the leading of the 1920s. But also in the text written by Griffith himself, “Tomorrow’s Motion Picture”: “There is an idea I would like to stress right here— *a very frequently overlooked or neglected, that is — cinema is really a new form of artistic and literary expression*”. But the emphasis in “new” is important as it adds: “*literary ability... is not enough; the applicant for screenwriting must have a screen mind; he must be able to visualize clearly and consecutively... When he writes “Scene I” he must mentally see it reaching out in unbroken continuity to “Finis”*”.
- 5 The framing also separates the spectator from the action: the spectator is a witness and not the actor, therefore the device cannot report its presence, as it used to happen in the attractions system in the cinema early years.
- 6 The alternating editing works until a certain point as Zeno’s paradox about the race between Achilles and the turtle: it doesn’t matter how fast the warrior is, the turtle always arrives first to the following point. However, as editing links the actions, it will shorten the empty spaces between the hero and the villain, allowing the final encounter and climax. See, for example, the famous encounter between Al Pacino and Robert de Niro in *Heat* (1995). At last, the two actors meet in the same shot, even though they had participated together in other movies (*The Godfather*, for example)
- 7 Consider the beginning of *Hellzapoppin* (1941) by H. C. Potter. In animation cinema we notice the subversion present in Warner’s and MGM’s films. For instance, in *Duck Amuck* (1953) by Chuck Jones, Duffy Duck

at all times strives that the director (Bugs Bunny is only revealed at the end of the film) respects the basic rules of syntax application in filmmaking. This is how the films from both studios managed to survive against Disney's «illusion of life» power, which represents the system. But, once again, subversion could only be possible in animation which system of attractions hasn't been abandoned by some studios and artists.

- 8 In fact, in 2002, Bordwell had already written about this subject in "Intensified Continuity: Visual Style in Contemporary American Film".
- 9 For Dixon, the violent spectacle from the large budget movies explain the narrative's collapse. Cf. "Twenty-Five Reasons Why It's All Over", p. 363.
- 10 Due to characters' psychological simplicity, being nothing more than mere instruments which trigger a visual spectacle, the Oedipal dimension of the heroes from some film genres, such as western and film noir, has been lost. In these, the hero carries, as part of their personality, a past and a purpose which prevents them from settling down and having a family. The cowboy and the private detective are dead souls wandering through uncivilized wild places: the Wild West and the city's basement. It used to be jokingly said that in westerns, the cowboy marries the horse in the end. Not even that is said anymore!
- 11 Our attention is drawn to these flashes: comfortably seated in a movie theatre with great projection and 5.1 sound, we inevitably look away from the screen when our mobile phone's light turns on and a new message arrives, many times from the friend seated two places next to ours. We are vulnerable to stimulus that constantly interrupts our attention and focus. It is in that sense that Scorsese says, in one of his statements in Kent Jones' movie — *Hitchcock/Truffaut* (2015) —, that in the blockbusters we have climax every two minutes.

- 12 Cf. *Interpreting the Moving Image* (1998). It is also important not to forget that Nouvelle Vague had also departed from cinephilia to undermine cinema's classical language.
- 13 We should not forget that nowadays' movies are made by the generation who can only give expression or meaning to writing through emojis(©). The new generation lost the writing refinement (they no longer read, only watch youtube and facebook and play games in consoles and mobile phones), SMS created a new alphabet, therefore emotions put into writing translate in to putting emojis
- 14 This shot conception defended by Louis Seguin collides with a more consensual one which I mention to justify the off field as the "not seen" that populated the shot as a "presence". Inês Gil (2005) approached this theme as one of the cinematographic atmosphere conditions.

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**TECHNOLOGY
INSPIRES ART,
AND ART...
SHOULD INSPIRE
OUR STUDENTS TO
BE ENTREPRENEURS**
MANUEL JOSÉ
DAMÁSIO

1. Intro: why entrepreneurship

Film regarded as a professional opportunity for young talents is always a practice that fluctuates between artistic aspirations, employability and uncertainty. The legacy of *cinéma d'auteur* persists in the syllabus and cultural environment of film courses in European academia, but today the ever faster emergence of new technologies appears to open opportunities for young professionals that for so long have found their access to a professional career trumped. The auteur theory holds that a film reflects the director's personal creative vision and primacy in spite of the film's industrial process, and of the intrinsic team work. The auteur's creative voice subdues studio interference and dictates the collective process. Even though some critics argue that the auteur theory "collapses against the reality of the studio system", i.e. the oligopoly and pervasive power of Hollywood, a management practice of creative people inspired by experienced successful organisations like Pixar has not taken root in Europe.

Nevertheless, today the collaborative aspects of shooting a film are becoming clearer and that is why project management activities and team work take such a relevant place in the structure proposed for ESSEMBLE.

In this paper we will assess the relevance of a general proposal for the insertion of entrepreneurship education in the context of film education in face of the experience four different film schools had along the years in developing ESSEMBLE. Not only will we outline what we consider to be the main traits of such proposal but also its relevance and potential to be applied in the context of educational projects such as this one.

The role of other team players and creators, notably of screenwriters, is acknowledged and fostered, but the leadership of the producer is not yet recognised as crucial in film development and creation. The auteur theory is seemingly anchored on entrepreneurship – the author as an entrepreneur -- but this notion owes more to the cultural and political environment than to putative entrepreneurial skills which would necessarily entail a market place oriented practice.

The vision of the individual artist collides with the more common aim of becoming an employee. In spite of the fact that becoming an employee could entail the end of creative freedom, it is attractive to some because it seemingly brings with it some panacea to market place uncertainty. The majority of European students that want to become employed, i.e., that shun entrepreneurship, fail to see that imbedded in entrepreneurship teaching is a body of knowledge useful in any circumstance and in particular in the company and corporate business environment, right from the moment of the first job interview.

Other students live in a permanent state of uncertainty, incapable of forming an idea of what to do with their lives. They lack self-assessment skills or they are not helped by an academia that fails to provide coaching, mentoring, personal orientation. One of the recommendations we leave in ESSEMBLE precisely addresses this need to supplement film education with mentoring activities supported by proper structures of project development that frame the uses of new technologies in the context of creative practices.

Many times students suspect that the courses true objective is to let them lose in the “capitalist jungle”. Academia has not contributed as much as it could and should to highlight the usefulness of entrepreneurship teaching, in particular the fragile and uncertain value chain, what is the current industrial environment, the impacts of digital distribution, and the acquisition of competences in value proposition definition, business modelling and planning with the ultimate objective of producing works aimed at the intended audiences.

The film business consists of a chain of connected companies, individuals and freelancers, all working on different elements of the filmmaking and exploitation process, at varying stages of the process (Finney 2015). It is a “disintegrated model” in which each element in the chain is dependent on the next player or operator partnership and cooperation to drive the project forward. This network has to be managed and made to focus on delivering specific commitments and activities. There is no guarantee that any value

will be extracted from work and ideas. Some players are socially motivated, others are economically driven. The process is complex, lacks transparency and has inherent deficiencies. Recent data from the European Audiovisual observatory (EAO, 2015) shows that although Audiovisual content consumption has never been so high, the fragmentation of platforms is also increasing as well as the parting between containers and content.

In order to meet the expectations of investors or supporting institutions, filmmakers should put together a complex but credible package consisting of:

1. The screenplay
2. The producer (company and track record)
3. The director
4. The budget
5. The key (lead) cast

Europe has undervalued the film development process both financially and strategically. In the US up to seven percent of total audio-visual revenue and up to ten percent of each film's budget is invested in development, while in Europe only one to two percent (figures from

2014). In Europe, film development is a secondary notion. Part of Europe's problems stem from the overwhelming power bestowed on directors. Investors have stayed at bay in this very uncertain and risky business.

This results in the following Weaknesses (Finney 2014):

- The vast majority of the industry is unsustainable on a commercial basis.
- Unstable, fragmented, complex value chain, fragile business model, no strategy.
- Insufficient or inexistent research and qualitative analysis predating the first day of principal photography.
- Production fee payment on first day of shooting leads to production without sufficient preparation.
- Simultaneous development of a number of projects to recoup investment costs and create sufficient production fees to cover both the production work and sunken costs.
- The producer is left far away from the consumer and is ill informed about market demands.
- Resentment between emerging producers and distributors, difficult dialogue.
- Sunk costs require important financial resources.

- The producer is the weakest link in the relationship with the distributors and must work under shadow of many oligopolies (including the SVOD distributors).
- The notion of “audience” is tenuous.
- Divide between academia and relevant teaching and training methods, insufficient practice and role definition.

Film education should address the above identified weaknesses and include learning outcomes that cover all these areas. Our proposal is that Entrepreneurship education will impact film and media arts schools the more it addresses these weaknesses and covers topics that allow future professionals and the industry to minimize them.

This implies that entrepreneurship education should eventually reconsider the epithet “entrepreneurship” and focus instead on a sobriquet that conveys the notion of preparedness with knowledge and skills that empower the students’ individual initiative and develop their creativity in a future professional environment, either as entrepreneurs or as employees.

Results of the process followed in ESSEMBLE, where greater attention was given to development and to the students autonomy supported on market driven project development, confirmed this approach. When discussing the impact and relevance of entre-

preneurship for Film and Media Arts Schools, the start premise should be to clearly state that these depend a lot on the way this particular type of education is presented to schools and the way it is implemented.

2. Content and Pedagogies

Nowadays images play a crucial role as visual objects in different media contexts. Both the moving and the static image have acquired new functions and values that challenge past approaches to their study and understanding. Images have for a long period been dependent on a specific discipline, art history. The multiplication of perspectives on the term, with different roots and mistaken applications, from philosophy, to optics, psychology and neurology, has resulted in successive speeches that have been studying images relation with human knowledge (Mitchell, 1986).

If the construction and analysis of the image, according to classical paradigms', was built by a division between percipient subject and object, between the mental image that resulted from the act of seeing, and the social construction of that act of seeing, the advent of mass media introduced problems so far not anticipated in the analysis of images' and their uses. Winning over the field of mere aesthetic enjoyment, where images were analysed only from an aesthetic perspective, or the fields of optics and neurosciences,

where images were studied solely on the basis of their locations in the brain or their functions, the media introduced new problems and perspectives, namely via the emergence of the moving image.

The possibility of images reproduction, hitherto confined to the human hand, was concomitant with the possibility of faster transmission and ubiquitous presence. The proliferation of image, its acceleration and its growing use for non-aesthetic purposes, not reducible solely to the realm of knowledge, began to draw, more clearly, to the historical and political role of images.

The image, taken as an object, thus migrates from a discipline that requires a basic preparation of the subjects to recognize the meaning of images, to a process that primarily seeks to evaluate their primary function and meaning in social and historical context of uses in which it is presented. The term coined for this new emerging form of image analysis, was visual culture (Elkins, 2003). In this context, it is clear that images must always be connected to the medium through which they are produced and presented.

The important thing to note is the observation carried out by visual culture studies that the study of the image, with its separation of the realms of aesthetics, art history, optics and neuroscience, is totally dependent on the media. The question today is, if there are media that create images for us, who is there in control and what are the uses and social contexts surrounding those uses that can help us

in finding the meanings and essences of images? It is tempting to answer this question by identifying the medium as a simple material support or something on which an image is displayed. But this response is always unsatisfactory.

A medium is more than the materials it is composed of. It is, as Raymond Williams wisely insisted, a material social practice, a set of skills, habits, techniques, tools, codes and conventions' (Williams, 1974). Here the problem raised by Benjamin with regard to the apparatus and the image reproduction technique recovers its political value. If visual culture studies introduced images in the world of media studies via their linkage to mediation, then we should take seriously the words of art historian Georges Didi-Huberman (2002) and see the image problem as belonging to the devices that mediate the broadcast, in the case of television, or the internet and the projection, in the case of film. It is clear today that an approach to understanding the image, despite its relationship to other areas of knowledge, is totally dependent on media studies, as a way of understanding the communication processing that deals both with individual and collective practices.

These initial questions are not solely theoretical ones, since they lay the ground for any reflection or approach that wants to discuss how we, as educators, can train students in the production of filmic representations, and what content and pedagogies should be considered. Besides those that result from the relevance this visual and

sound cultures have in our society, these contents and pedagogies should also reflect the nature of this type of education that we focused on in the initial paragraphs.

Entrepreneurship education will mostly impact the content and pedagogies being taught in film and media arts schools via the integration in these schools of a set of skills that will reinforce the bridging between these schools' education and real world settings, besides assuring that the pedagogies used in the context of project development throughout the courses are sustained in an audience building perspective so much needed for European film and media production.

The shift towards a fully digital production and distribution environment that we are witnessing these days, affects all stages of the film and media value chain, but more importantly also provokes relevant societal changes, namely on what concerns information use and consumption for cultural, entertainment, educational or many other purposes. When talking of film and media arts education, we are considering all practices associated with image and sound production, reception and interpretation, namely those that fall under the umbrella of the "film and media literacy" perspective (Buckingham, 2007).

Previous research alerted us to the emergence of media contexts (Damásio & Poupá, 2008) where users deal with images and

associated messages by means of strategies that point to original forms of literacy (Buckingham, 2007), while at the same time, raised new questions regarding the role visual elements (Mitchell, 2008) play in users engagement with society and others.

Several studies have been made to try to identify elements that might attract, or more effectively direct users' attention to visual messages (Dreze & Hussherr, 2003, Guérard, Chtourou & Tremblay, 2010, Pieters & Wendel, 2004, Nielsen & Shapiro Manson, 2009). Specific features of stimuli (bottom-up) in video, such as its location more or less central to the axis, its frequency and the contexts where they are placed (with variable emotional valences) have only recently begun to be studied using objective measures of attention (Teixeira et al, 2008, 2010).

The development of a technique for monitoring the eye, using eye-tracking equipment has only recently become non-intrusive and therefore more valid in the reproduction of the real contexts of use (Duchowsky, 2007). The measurement of attention given to certain stimuli and the duration of the action are increasingly central to the analysis (Pieters & Wendel, 2010) and understanding the ways in which people process visual information. This aspect is of a particular relevance to educators, since it points to the key difference between the complexity of what is produced and the complexities of what is perceived.

Those involved in training moving image experts should not focus their attention on the qualities and technicalities of what is produced – e.g. “digital film” – but on the external characteristics of the object – e.g. the film – that are perceived and consumed by the subject.

By this distinction we point to the central conflict that seems to affect film schools and other training organizations in these fields: does technology drive content or does content drive technology? On another axis we have another clash: should we train highly skilful technicians or should we centre our attention in training individuals that dominate the system of emotions and stimuli that film and audiovisual embody?

In environments and contexts of strong competition, where the stimulus to consume is vast and plentiful, the individual is the target of an abundant set of information for which he has limited processing capacity (Milosavljevic, 2008). The selective processing of information is a cognitive response to our inability to process a vast amount of information simultaneously. The attention to a certain stimuli and not to another depends on several factors. Among those factors to be considered, is the interest we have in certain message or object and, secondly, the intrinsic characteristics of the message (Pieters, Wendel, 2004, 2010).

Considering only top-down factors (characteristics and interests of the individual) and bottom-up (stimulus features) has been, until very recently, the paradigm of the approach to the study of how (1) individuals perceive the inclusion of specific objects in the context of the moving image and (2) the ways in which different producers of images choose to operationalize this process. Edenius and Dahlén propose to include in this equation the context in which the image is consumed (Edenius & Dahlén, 2007). More than the changes in the production and processing environment – e.g – the digital intermediate chain of film processing and distribution – it is the changes in the distribution and consumption environment that should worry film schools. The digital media continuous context of consumption and interaction with content makes the previously mentioned conflict obsolete – technology is also content because users engage with both simultaneously and without making any distinction, from this resulting what we could call a dilution of the moving image, and associated emotional and sensory stimuli that are carried by films, in a complex process of collective and individual construction of social identities.

This kind of economic and cultural environment raises questions about how this commodity culture impacts the training process and how this may improve itself in accordance with this environment specificity. The knowledge and skills provided by entrepreneurship education have a strong relevance for this subject matter and could deeply impact film schools, not only by bringing to the centre the consumption process and what it entails in terms of audiences con-

struction, but also and more importantly, by framing the technical and artistic education provided by schools in the context of a broader social, cultural and economic environment where their competences should be applied in the production of relevant filmic objects.

To capture the attention and “seduce” individuals, the moving image makes more and more usage of entertainment and technologies that bring out the most spectacular facets of the moving image and draw its differences when compared with other media that carry similar messages (i.e VR films).

Most of the research about the evolution of film education and its “literacies” has been centred on audiovisual content and its “effects”, but the new integrated digital media environment that uses the Internet and the mobile phones (the so called new media) brings participation and interaction to the core of the consumption process though making obsolete all approaches that revolve solely around the production/reception relation. The integration of entrepreneurship education in film schools will impact the schools’ ability to play greater attention to these processes, tough improving the quality of their education. In our view the concept of entrepreneurship is deeply related with the concept of literacy when the domains of the arts and the creative industries are at stake.

If it is clear today that the rise of the Internet created the need to redefine the concept of literacy, the growing influence of different

media in popular culture brings to the discussion the need to reshape our training methods and approaches in order for them to embrace all possible forms of interaction with media messages and not only those that we have in the past attached to our ontological definition of the medium “film”. Entrepreneurship has all to do with the ability to reply to emergent needs in a given context via the provision of original concepts while literacy has all to do with the understanding of the mechanisms that support the dissemination and reception of those same concepts.

3. Teachers and students

In the previous lines we've tried to point to what we consider to be the main dilemma currently being faced by all moving image educators: the conflict between the technical values of the moving image that we see assuming such a big importance nowadays, and a changing reception and consumption environment where aesthetical fruition seems to be replaced by forms of consumption that integrate interaction and participation at their core.

In our view this dilemma can only be surpassed if film schools integrate a strong component of literacy oriented skills in their training and refocus technical training from the point of view of the cognitive and emotional stimuli that are of the most importance to the final users of the messages. A key aspect for that is the integration of

entrepreneurship education that can bridge the distance between the technical and artistic skills being taught and the outside world. Only then will we once again will these schools fulfil their role as educators and understand that the creative process is something inherent to education not something that is separate from the acquisition of technical or interpretative skills.

There is a huge range of combined Film and Media Arts courses. Film and Media students in particular are offered a bewildering range of courses ranging from those wholly dedicated to media practice including, for example interactive design, film and TV production or sound design, to combined courses in film studies, for example. These might be theory-based courses with elements of film production. This situation is complicated by overlaps with disciplines that are not based in art and media departments. For example, many computing courses include games design or engineering departments might offer game development courses. More recently, growth in the higher education sector, particularly a rise in student applications, has encouraged institutions to expand and develop their courses in the creative subjects that have proved popular with the growing number of young people entering the sector.

The total of all combined and full courses including art, film and media education on offer in Europe in 2016 exceeds 6,000. The development of courses has also been shaped by external factors, in particular a density of particular sectors of industries or

audiences and consumers. The major impact of entrepreneurship education for teachers and students in film and media arts schools will be the bridging of this distance between their schools and the context of application of the knowledge and skills they provide. For students this will imply better employability opportunities and stronger transversal skills that are relevant in many aspects of their future professional lives. For teachers, it implies an opportunity for the implementation of new methods and pedagogies that better adhere to the paradigms of literacy and audience construction we have mentioned in the previous part. In both cases, it will make them more aware of the role business ventures have in shaping the area where they act and the opportunities arising thereof.

4. Societal relevance

Most educational programmes for creative subjects have elements of occupational learning, focused on how to be a practitioner, that imitate real-world practice. Fine artists, designers, musicians, architects, web-designers and actors learn practical, technical and cognitive skills associated with the practice of fine art, design, music and so on. In most cases these align closely with professional and commercial skills and conventions but in many there may still be a significant distance between educational and commercial settings. By bridging this gap, entrepreneurship education will greatly increase the relevance the education provided by these schools has

for society. Taken alone, a focus on occupational learning lacks sufficient resolution to define the creative subjects. Learning to practice is also central to medicine, law and engineering education. However there are clear differences in pedagogy, in the nature and means of learning and the way knowledge is developed and applied. At the centre of pedagogy for creative practice-based subjects, as distinct from the broader group of practice-based subjects is a notion of divergent thinking where solutions develop through intelligent problem creation and resolution. This is quite distinct from more convergent thinking applied in for example, medicine and engineering where solutions are arrived at through the application of well-established diagnostic skills and technical instruments.

Film and Media Arts subjects also often include varying degrees of media practice. Film, TV and radio production and multimedia can cover all aspects of working in these sectors with the exception of practical training for in front of camera/front of microphone work. There are several strands to the development of formal programmes for media education. Some developed out of art and film schools, particularly those that grew from the more arts-based traditions, some out of crafts and design, for example printing and typography. Media subjects like photography are closely associated with fine art principles such as composition or the traditions of landscape painting and portraiture. Film and more recently TV have tended to develop degrees that those undertaking them are conscious that are not a route to employment. For many graduates, employment in

the creative industries is seen as part of their learning rather than the ultimate goal. This may be part of portfolio career development and a way of financing a start-up or gaining business experience and clients. Though, we can see that entrepreneurship education, though not in a formal manner, is already present in many of these schools as a mind-set.

Many of the relationships between individual higher education departments and specific creative industries have evolved out of traditional links, for example where an industry has contributed to the foundation of a department or where programmes have developed out of occupational training delivered by colleges.

Despite this, a considerable distance has opened up between higher educational institutions and the creative industries. This may be because a direct link between funding by industry and delivery has been broken or be a consequence of a change in focus from vocational to academic development. The introduction of entrepreneurship education gives schools an opportunity to increase their relevance and change this situation.

Structural and infrastructural factors impede effective dialogue between academics and creative industry. Collaborations between the creative industries and art and media departments are likely to be an important aspect for entrepreneurship education. Developing entrepreneurship education the creative subjects without a proper integration with the

schools' other activities will most probably fail. Alan Gibb (2013) shows that graduate entrepreneurship will be cultivated most effectively when it is developed in relationship to the core subject being studied (Gibb, 2005). He demonstrates how entrepreneurial practices are bound up with the knowledge development, pedagogies and professional practices of the subject (as opposed to the view that entrepreneurship is solely a function of business and commerce and is best absorbed into the practices of business and management schools). This suggests that the definition of entrepreneurship must be either broad enough to encompass a range of practices or be adaptable for different learning contexts. "Entrepreneurial learning is acquired on a 'how to' and 'need to know' basis dominated by processes of 'doing', solving problems, grasping opportunities, copying from others, mistake making and experiment." (Gibb, 2006)

Entrepreneurship education in art and media will be enhanced by developing more coherent policy and mechanisms for policy delivery. If students are to be sufficiently motivated by the idea of entrepreneurship, it needs to become part of their view of their subject and their post-graduation practice.

Two conclusion can be drawn on this matter from our experience in ESSEMBLE. Firstly, that entrepreneurship education will be most effective when delivered in the context of collaborations between higher education institutions and the creative industries. Secondly, that there is a need to develop greater clarity in the aims, outcomes

and effective assessment for entrepreneurship education for art, design and media.

Many creative industries professionals consider that the skills and attitudes necessary for entrepreneurship are closely related to those needed for employability. It is, to be fair, difficult to draw a clear distinction between employability and entrepreneurship, and many employability skills will also be the basic competencies of a successful entrepreneur.

One area in particular in which education appears to learn from collaborations with industry is in developing team and interdisciplinary working. Implementing work-based learning to support entrepreneurship thus become the core method to be followed for the implementation of the proposed courses.

A significant proportion of creative industries professionals favour apprenticeship models to assist students in developing their employability and occupational skills. Where there is a high level of systemic modelling of professional practice in, for example, medicine, law, architecture or engineering, students are required to undertake supervised and assessed placements as a condition of qualification and registration as practitioners. In the creative industries there is custom and practice but no professionalised forms of practice.

The implementation of entrepreneurship education in the area of film and media arts and more broadly in all educational areas associated with the creative industries can then have a strong impact in the higher education institutions that follow this path of development since it will bring their activities closer to the stakeholders they are working with and for besides assuring a greater legitimization of their own educational model and the outcomes it delivers. Our experience with ESSEMBLE proves this!

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**REFLEXIVE
PERPLEXITIES:
THE VIRTUAL
CAMERA IN 'SHE'S
NOT THERE'
PETER MOYES
AND LOUISE HARVEY**

Abstract

We report on the conception, production and delivery of the live music, live performance, 3D animated project *She's Not There* that opened the CILECT congress in Brisbane November 2016. We discuss the operations of the virtual camera in framing the virtual 3D space within the real space of the theatre stage. We muse on this Mixed Reality mode within the context of Goudal's conception of cinema as fostering in its audience a 'conscious hallucination' (1925); the appeal of our project is contingent upon the audience being able to view outside of the frame while enjoying the fantasy within, to *knowingly* invest in its illusion.

Keywords: Mixed Reality, virtual camera, motion capture, 3D animation.

Background.

We first saw the virtual camera in operation when Motion Capture Director at WETA Mr Benjamin Brenneur was taking a small class at The Griffith Film School through its paces in 2015. As Benjamin stepped through the empty space of the motion capture volume with what looked like an iPad sporting alien antennae, and somehow, miraculously, he was at the same time exploring the imaginary world of the 3D virtual space displayed on a monitor to our left, it was oddly confounding (see Figures 1 and 2). It was hard to reconcile the physical with the digital being played out before us —the same moves, in tight synchronisation. It was as if, so accustomed are we to viewing the digital and its fabrications OR the real and its hard truths (in a mutually exclusive proposition) that for our brains to



Figure 1: The motion capture volume

swing between these two realities, which were now somehow related, relating and faithfully replicating via this wormhole of a virtual camera, was too hard to hold in the brain at the same time, to fathom, to logically accommodate. As Benjamin waltzed through the empty space, the virtual camera was picking up on a reality unbeknownst to us, a parallel universe, a nether world, that was clearly there but not apparent to our naked eye. It was exciting, it was refreshingly perplexing.

The virtual camera (Figure 3) is a tool for pre-production in 3D animated films. Allowing the director to frame shots in

the pre-rendered 3D fictional world of the film, the camera provides the director with the same kind of improvisational approach to



Figure 2: Correlations in virtual space.

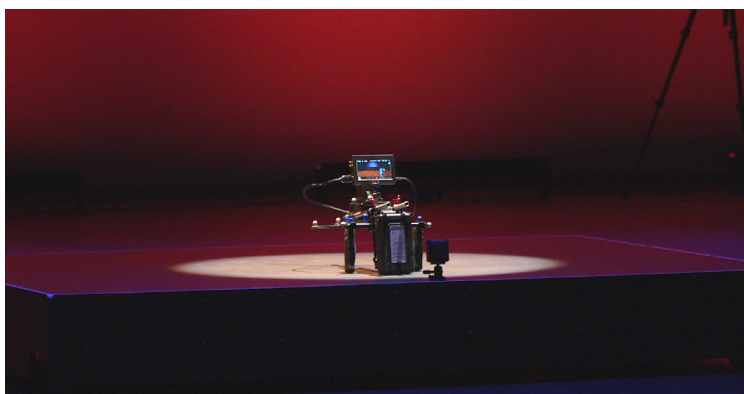


Figure 3: The virtual camera

framing, to camera placement and movement, that the live action director enjoys; in the world of animation where the bulk of creativity and performance is locked off prior to the key production phase of animating, any real-time directorial processes technology can afford are indeed welcome. For the *She's Not There* project, the centrepiece of the CILECT (Centre

International de Liaison des Ecoles de Cinéma et de Télévision) congress opening ceremony in Brisbane November 2016, Dr Louise Harvey and myself, partners in animated crime at the Griffith Film School, wanted to push the machinations of the virtual camera up front, out of this pre-production realm and into the arena of performance,

to showcase the wizardry that Benjamin had introduced to us the year before. We also wanted to work with live music.

A brief aside: each year a selection of our graduate animation films is offered up, stripped of audio, to the Queensland Music Festival for their high schools composing competition *Score It!*; a rich initiative that has our animation students connect with aspiring composers in bringing a fresh musical interpretation to three minute animated fantasies. In hosting the awards for this competition at our film school, it's been my privilege to witness the live performance of the winning senior score, led by conductor Mr Cameron Patrick, as animation films I am well familiar with, come to life under a new orchestral accompaniment. The first time I was present at these performances, was for me, a watershed moment: I was the kid in the candy store. There was nothing to compare with the audience experience of live tightly synchronised orchestral articulation of the animated images. It left pre-recorded sound for, well ... dead. I was surprised that the mode of presentation that attended the very early presentations of theatrical animation, with piano or organ tinkering along to the animated action of mice, cats and dinosaurs, managed to capture the imagination, even enthral, contemporary audiences (well, at least me) when there has been so much trickery and so many technical treats across this last century of screen experience.

The Project

And so Louise and I were keen to revisit these early modes of animation presentation, these roots in vaudeville, and in taking some of that mixed bill approach, to foreground the spectacle of animation as magic trick, as performance, a spotlight on both animated conceit and its sleight-of-hand delivery. And we wanted to use new technology to do so; it was a proposition that despite the usurping of one technology for another across a century of animated cinema, we argued that the hook, the fun remains the same –the double play of illusion of life alongside the knowledge of its lifelessness constitutes animation as performed trick. We cite Donald Crafton (1979, 1982, 2013) and Norman Klein (1993) in discussing this performance aspect of animation as magic trick, and Alan Cholodenko (2007) in considering the uncanny appeal implicit in machinations of the ‘animatic’ in the paper ‘She’s Not There: When New Illusions Meet Ol’ Time Real Time; Mo-cap, Virtuality and Live Music Performance’ (Moyes, Harvey 2016).

We chose a song that would be fun to work with, with a refrain that would highlight the trick we were conjuring, namely ‘She’s Not There’ by the Zombies (1965). ‘She’ would be both our digital character Miss Burly Chassis and our real-life performer Christine Johnston; Burly a trashed-out cabaret performer past her prime, alive in virtual 3D space, and Christine her real-life rival stealing the show in the real space of the theatre stage (see Figure 4).



Figure 4: Burly Chassis (left), Christine Johnston (right).



Figure 5: The virtual camera frames 3D animation in real space.



Figure 6: The 'battle of the remotes'.



Figure 7: Cameron Patrick and the Ensemble Orchestra.



Figure 8: Motion capture session with Christine Johnston

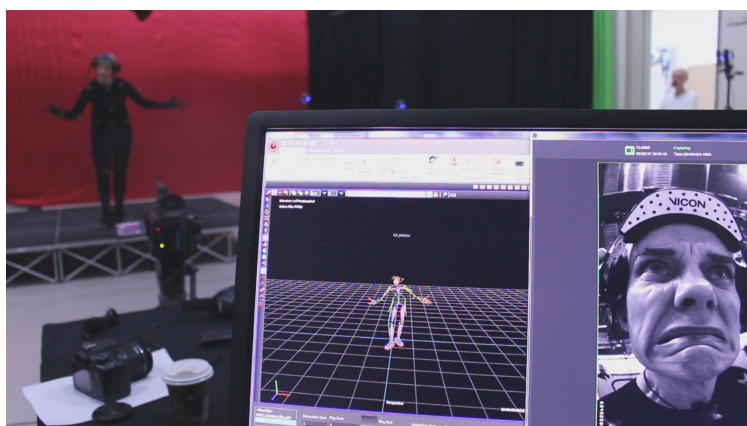


Figure 9: Live action facial reference for lip sync

As virtual camera-operator Ashley Burgess circumnavigated the motion capture volume of this theatre stage, training his camera on essentially nothing, 'She' was clearly 'not there', and yet at the same time 'there' –in the 3D animated performance of Burly framed by Ashley and projected on the screen aloft the stage (see Figure 5). To exacerbate this tension between virtual and real, Christine appears on stage towards the end of the song as Burly is clearly struggling with the material. A battle of remote controls ensues and Burly is snuffed out (Figure 6), Christine delivering the last refrain as live performance to the strains of the Queensland Conservatorium Ensemble under the baton of Mr Cameron Patrick (Figure 7). An earlier exchange between Cameron in the orchestra pit and Burly on screen was designed to enhance this illusion of synchronicity between pre-recorded and real-time. Indeed, the accompaniment of live music to 3D animation throughout (facilitated by the essential click track in orchestra's headphones) was to bring both warmth to animated performance, and importantly to enliven this confluence between real time and pre-recorded, between live space and virtual.

Christine had provided the performance for Burly Chassis in pre-production, her gestures motion-captured, her face filmed for lip-sync reference, her voice: the voice of Chassis (see Figures 8 and 9). Cameron arranged the score of *She's Not There*, working from live capture of the motion capture sessions for timing and inflections. Louise modelled Burly, cleaning up animation further to the motion capture data, and providing full lip sync.

She's Not There opened the CILECT congress in Brisbane November 2016, and amazingly it all seemed to 'go alright on the night (morn-ing)'. Christine, Cameron and the Ensemble performed beautifully, aided by staff backstage; Burly Chassis' irascibility was in full swing due to the prowess of technical staff sweating in the wings.

Discussion.

In exploring the importance of cinema to surrealism, James M. Magrini (2007) goes to Jean Goudal's 1925 essay and his appraisal of cinema in constituting 'a conscious hallucination'. Goudal suggests that part of the predominance of the medium of cinema over, for example, literature in realising the aims of surrealism, is cinema's possibilities in the 'fusion of dream and consciousness'. Goudal suggests that in our 'temporary depersonalisation', we abandon ourselves and commit to the immediacy of the simulacra on screen, as in a dream when 'the imaginary succession of images monopolises the foreground'. And yet, this succession of images 'has something artificial about it ... we know very well that it's an illusion, a sensory device which does not completely fool us'. Magrini explains that due to the flickering light, the whirring projector, 'the mechanical movements of the actors' and a consciousness of 'the cinematic apparatus', the spectator maintains a 'simultaneous belief in and receptivity to' the reality of the images, 'as in the dream, while at once maintaining the conscious ability to discern their status as cinematic illusion.'



Figure 10: Mock exchanges between Cameron and Burly.

It is perhaps this conscious dreaming that best explains our ongoing pleasure in the trick of animation. Even as we understand the mechanics of animation, especially after all these years, there is joy in experiencing its illusions unfold. This was our objective and our premise in the *She's Not There* project. Even as we expose the 'backstage' machinations of our presentation —our camera operator negotiating the arc of motion capture sensors positioning his virtual camera in theatrical space, its digital duplicity on the screen above, the ham-fisted exchanges between virtual performers and real— for both those in the audience cognisant of the workings, and for those still intrigued by the trick, the pleasure remains the same in taking part knowingly in the deception, impressed by craft as much as entertained by illusion.

Ours was not an immersive Virtual Reality experience locked off by goggles inside a 720 degree view; ours was more akin to Mixed Reality – the appeal is in being able to view outside of the frame while enjoying the fantasy within, the audience having recourse to the reality check of periphery. We required of our audience a wide view: of Burly's performance on screen, of Ashley's manoeuvres with the virtual camera (in framing that performance), of Cameron's and Christine's antics in mock exchange with Burly, and the conservatorium ensemble playing throughout, the tips of their bows periodically entering bottom of frame.



Figures 11 and 12: Stills from Jean Cocteau's *The Blood of the Poet* (1926).

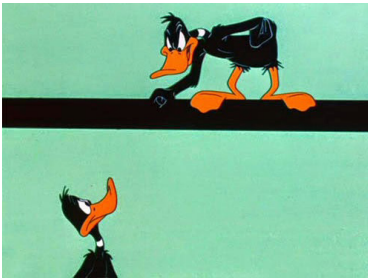


Figure 13: Still from Chuck Jones' *Duck Amuck* (1953)



Figure 14: Still from Tex Avery's *Northwest Hounded Police* (1946)

All Art has been nourished by the perennial tension between illusionism and reflexivity. All artistic representation can pass itself off as 'reality' or straightforwardly admit its status as representation. Illusionism pretends to be something more than mere artistic production; it presents its characters as real people, its sequence of words or images as real time, and its representations as substantiated fact. Reflexivity, on the other hand, points to its own mask and invites the public to examine its design and texture (Stam, 1985).



Figure 15: View from backstage (virtual theatre).

The real time, real performance, real flesh aspects of our presentation bookend and frame the virtual 3D world in ways which both authenticate and problematize its illusion. On the one hand, the operations of the virtual camera bring an immediacy and real time effect to the animation playthrough —the conceit is one of live broadcast of an albeit pre-rendered animated scene. Further,

the live performance interchanges of Christine and Cameron with Burly Chassis confer their reality onto the responses of the animated character —she shares the same timeline, she responds as if real (Figure 10). Meanwhile, the live music throughout keeps time, that is real time, grounding all in the reality of sound waves bouncing around the physicality of a concert hall. And yet on the other hand,

all the while, we know this entertainment as illusion, as artifice; Burly remains contained within the frame overhead, her virtual reality subject to the whim and pan of a virtual camera circling the motion capture volume front of stage.

Tex Avery's characters were barely contained within the frame, sometimes Chuck Jones' too, as they busted out of the analogue frame (or at least appeared to), poking at its sides and pushing the envelope of the fourth wall (Figures 13 and 14).

Enjoyment was had in feeling as if these characters were indeed talking to us, provoking our reactions, letting us into their conspiracy through shared jokes and mocking asides —often at the expense of the medium itself: 'a cartoon like this ...', 'this is silly isn't?'. And yet we knew they didn't know us from Adam, they were graphic lines for heaven's sake —the cognitive samba we allow ourselves to indulge in as we swing between fantasy and fact is liberating. So too, *She's Not There* foregrounds its artifice, the project provides for its audience a reflexive distance, via the machinations of the virtual camera, as interface between real space and virtual, between pre-rendered digital animation and real time theatrical performance, such that theirs is a conscious hallucination, one eye open, one eye shut, an enjoyment in cinema as performance, as fun, as a reflexive perplexity.

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**MEMORIES IN DECAY
360° SPATIO-
TEMPORAL
EXPLORATIONS
OF THE PAST
BRECHT DEBACKERE**

“But so strongly, so resistlessly, to the annihilation of time and space,
was he rapt back into the past...”

– Thomas Mann
“The Magic Mountain”

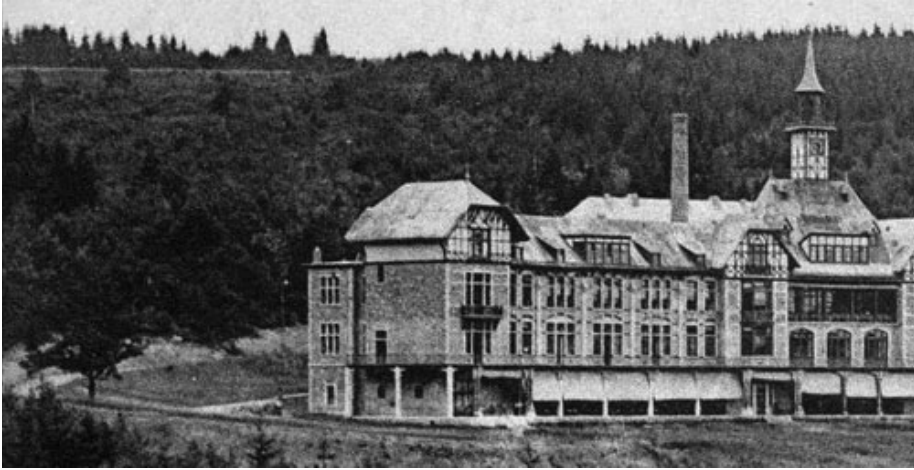
Introduction

History persists in many forms: in the memories of the living, in stories told and retold, in the physical artifacts that remind us of both its presence within our present and its bygone past.

But that which maybe captures our imagination most intensely are the images, both photographic and cinematographic, from former times.

We decipher the future by means of these images from the past and in doing so we connect ‘time gone by’ to ‘time to come’.

‘Memories in Decay’ is a 360° immersive experience which explores what happens when the past meets the present using the cinematic medium of the future: omnidirectional video. It is a VR documentary which does not only transport the immersant – the ‘spectator’ of an immersive experience – to the ruins of a long-forgotten place,



but also balances between past and present, providing access to a different time through the use of oral histories and archive photos and documents.

The concept is developed by the two founders of the Belgian production company Visualantics, Steven Dhoedt and Brecht Debackere.

Steven Dhoedt has been producing and directing documentaries for the international market for over a decade. As well as being an expert audiovisual storyteller, he's also an avid gamer, an interest he's brought into Visualantics through his movies *Inside the Metaverse* and *State of Play* and lately by starting the production of the company's first video game. His interest in new media gives him a keen eye on transposing his expertise to alternative platforms.

Brecht Debackere was part of the European research project 20203D Media, a project investigating, amongst others, omnidirectional video. He directed the 360° showcase *Double Happiness* and worked as a DOP and post-production assistant on the Belgian national broadcaster's first forays into 360° video and recently finished his first feature documentary *Exprmntl*.



He co-wrote several papers on editing and cinematography in omnidirectional video and developed custom software for multi-user immersive video performances and installations.

What follows is the conceptual framework within which this production is being developed.

Project Description

Abandoned buildings exert a strange kind of attraction: they make us wonder what purpose they used to serve, when and why they got deserted and which artefacts of their past remain inside.

Urban exploration, urbex for short, is a world-wide phenomenon where people, sometimes legally, often illegally enter these discarded places to document the decay. Rule of thumb for urban explorers: 'take only pictures, leave only footprints'. Some of these places have since been demolished and now no longer exist except in the photographs.

The pictures they make capture the imagination and offer a glimpse into a bygone time. Unfortunately when one wants to learn about the history of the place this can only be done through an accompanying text.

With 'Memories in Decay' we propose a format for omnidirectional documentaries in which abandoned locations are brought back to life using archive footage, documents and first-hand testimonies.

By combining present-day 360° footage with archive material and post-production effects, 'Memories in Decay' aims to create

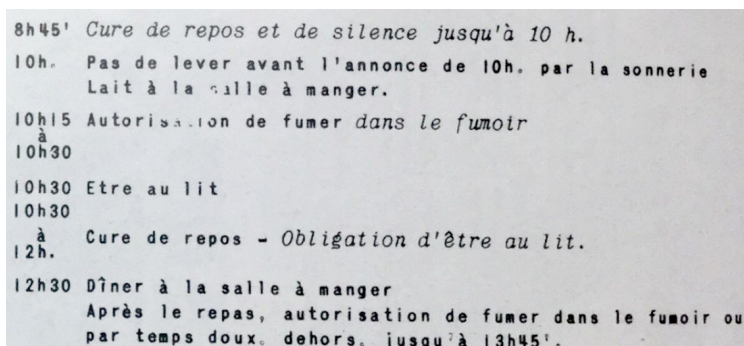


Figure a The sanatorium on the hilltop looking out over the valley

a seamless experience of both being 'there' and being 'then'. The sense of 'presence' – the notion of being physically present in a virtual place – is enhanced through carefully crafted audio, evoking the ambience of both now and of former times, putting the spectator at one moment in the eerie present and in the lively past in the next.

Our aim is to have the VR experience coincide with autobiographic accounts by former inhabitants, written and recorded in such a way that the spectator feels it is (s)he who remembers having been there before and the voice is his or her own.

Both audio and visuals in their present and past incarnations will serve as elements to bridge the gaps which editing creates. Architectural similarities and match cuts will also contribute to a seamless



8h45' *Cure de repos et de silence jusqu'à 10 h.*
 10h. Pas de lever avant l'annonce de 10h. par la sonnerie
 Lait à la salle à manger.
 10h15 Autorisation de fumer dans le fumoir
 à
 10h30
 10h30 Etre au lit
 10h30
 à
 12h. *Cure de repos - Obligation d'être au lit.*
 12h30 Dîner à la salle à manger
 Après le repas, autorisation de fumer dans le fumoir ou
 par temps doux, dehors, jusqu'à 13h45'.

Figure b While TBC generally affects the lungs, patients did have several smoke breaks a day, as shown in this excerpt of the daily routing

experience. The camera remains static, rather it is time that moves, between then and now, from beginning to end.

The pilot of 'Memories in Decay' and initial case-study for the principles outlined below will be the 'Sanatorium of Borgoumont' also known as the 'Sanatorium du Basil' in La Gleize, Belgium.

Story & History of Sanatorium of Borgoumont

In the midst of the Belgian Ardennes, on a remote hill overlooking the valley of Amblève, stands an imposing dilapidated structure known to locals as the Sanatorium du Basil.

As we ascend the slope leading from the gatehouse up to the main entrance, the 100-meter wide building looms out of the surrounding pinewood forest. A few broken windows aside, the exterior of the building seems relatively unscathed by the test of time.

Inside, the sound of rustling leaves and birds singing dies down as we descend into a maze of long corridors and empty rooms. A large bathing room, its shallow pool drained and its walls decorated with cracked tiles. An isolation cell, its door off the hinges. A bedroom stripped of all furniture. A vast dining hall, metal trays scattered over the floor. The vestibule of the children's ward, Disney figurines

covering the central pillars. Every room gradually comes to life, carrying us back to a distant or not so distant past.

Built in 1903, during the golden age of bacteriology, the sanatorium was one of the many health spas that emerged all over Europe to combat the contagious tuberculosis disease. The most famous of which is undoubtedly 'Berghof Schatzalp' the Swiss sanatorium in which Thomas Mann's *The Magic Mountain* takes place. For over half a century and out of sight of the general population, this sanatorium harboured thousands of children and adults suffering from advanced TBC. While many of its patients were eventually able to return home healthy, the course of treatment could easily take up to 18 months. It followed an intense and rigid daily routine consisting out of these essential elements: breath fresh air, get plenty of rest, stay warm and eat nutritiously.

The discovery of new and effective antibiotics like streptomycin in the second half of the 20th century significantly reduced the number of tuberculosis cases in Western-Europe. Consequently many of the sanatoriums saw a drop in the number of patients. One by one they started closing their doors.

Since there was no further need for specialised TBC centres, the Sanatorium du Basil underwent a much needed renovation and was re-designated as a psychiatric institution In 1978. The centre was

finally forced to close its doors due to the high maintenance cost, but for a short time, between 2010 and 2013, it served as a refugee centre for the Belgian Federal Government.

For more than a century, the Sanatorium du Basil thus offered a temporary shelter for some of society's most vulnerable groups: first the deadly and contagiously sick, then the mentally weak and disturbed, and finally those running from violence in search of a new home.

At the moment of writing it is up for sale. Having served several purposes one can only wonder what the future plans for this building will be.



Figure c Leisure room in the sanatorium

Memories, History & Archive: Spoken, Written, Imaged

It was not an ordinary form of remembrance but a combined action of imagination and memory and so vivid as to make the image it presented a virtual reality.

- Thomas G. Upham, "Letters, aesthetic, social and moral written from Europe, Egypt and Palestine", 1857

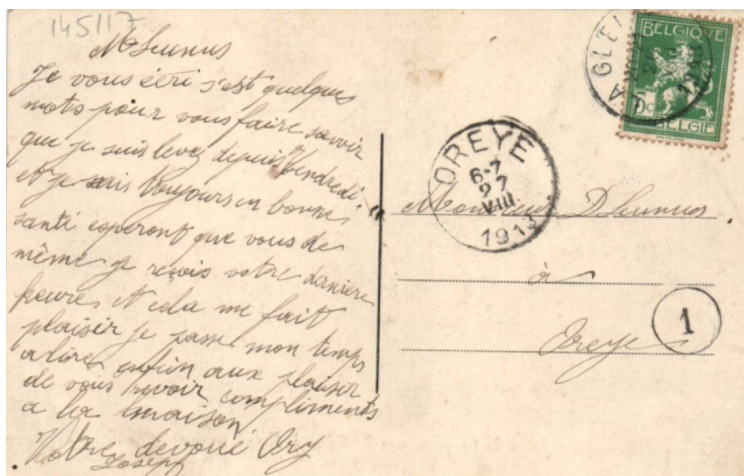


Figure d Postcard written by a patient in 1913

'Memories in Decay' is a VR documentary in which the immersant is not merely transported to the ruins of this forgotten place, but which also balances between present and past. It is an immersive experience which provides us with a glimpse into another time. While VR is the pre-eminent medium to create the feeling of presence in terms of space, it is through the archive materials that the memories, history and past of the building will be evoked and we aim to stir up a sense of presence in the memories of another time.

These archive materials are threefold and cover three different means by which history and memory has been preserved throughout history.

Oral And Aural History: The Use Of Sound

One of the important components in creating a fully immersive experience is sound. Apart from the VR headset, the immersant is equipped headphones when experiencing the immersion. Using ambisonics, a full-sphere surround sound technique, it is possible to generate the stereo audio relative to the viewing direction in realtime. This allows for localisation of sound in the soundtrack which in turn can act as subtle cues to guide the viewing direction of the immersant.

We identified three main types of sound which we want to explore in 'Memories in Decay'.

First of all there is the use of oral history in the form of testimonials of people who worked at the sanatorium or who were either patient or resident. These type of memories are highly subjective. They are testament of the psychological effect of time on the nature of the memory. By revisiting, restructuring, retelling and forgetting these memories, they don't necessarily reflect objective reality and facts any longer, but rather emotional connections and personal experience, affected by time.

These testimonies will be presented in the form of voice-overs told from a first person perspective. The source of these spoken memories appears to the immersant as existing all-around him or her, close-by and is meant to sound as much as possible as an inner voice – as if it is the spectator's own memories that are being recalled by visiting a place from his or her own past.

Aurally we also distinguish two distinct types of diegetic sound: that from the present and that from the past, which we will call 'direct sound' and 'historic sound' respectively.

The direct sound is the sound of the rustling leaves as we approach the sanatorium. It's the birds, the wind, the creaking of floorboards and the ticking of unused water pipes. In short it consists of all the sounds that can be heard at the sanatorium in the present. This audiotrack sounds all around and has no distinct location. It is the ambience soundtrack of the movie which stresses the abandonment,

emptiness and placidity of the building and surrounding nature. It is there like the auditory lifeline to the present which gradually slips away and makes place for the sounds of the past.

The historic sound is a reconstruction of what the diegetic sound would be, were we to record it in the days the sanatorium was occupied by countless patients, nurses, doctors and other personnel. It is the sound of the dining room in full swing, the hum of the early x-ray machines, the bustling corridors, the slushing in the laundry room. In contrast to the direct sound, the historical sound is localised. The aim is to create an as realistic as possible ambience of the past. By localising the audio the immersant is tempted to look around and discover the full 360° image. These auditive cues guide the gaze of the immersant towards the sources of these sounds, the places where the photographic archive material is embedded within the present-day omnidirectional image.

Written history: The Use Of Text

Emotions, thoughts, experiences, measurements and observations,... condensed onto paper in the form of letters, post-cards, patient dossiers, rules and regulations or administration. Fixed in time by the initial author and subject to change only in the mind of the interpreting spectator who sees it through his or her contemporary lens.

These written postcards, letters, reports and patient files,... they all add to the reconstruction of how life must have been during the time it was a sanatorium for tuberculosis patients. There are a number of documents available, ranging from the daily schedule of the patients to health records kept by nurses and doctors from 1904 onward.

Some of these written documents will be used auditorily by means of voice-over while others will be represented visually superimposed on top of the filmed images, e.g. as if they are being written on the graffitied walls of a now empty room. Text being written on top of the image can also act as a guidance to encourage people to look



Sanatorium populaire de la province de Liège à Borghoumont - La Gleize

Figure e Dormitory devoid of bedridden patients

around in the image: text entering the field of view will make the immersant wonder where the sentence started, while text trailing off out of view will tempt the immersant to follow the writing.

Imaged history: The Use Of Photos And Film

Hailed as the ultimate medium to document reality, photography and later film turned out not to be as objective as initially thought.

Bolesław Matuszewski, cinematography and documentary pioneer, employee of the Lumière company and member of the photographic society LUX wrote in 1898:

"Perhaps the cinematograph does not give history in its entirety, but at least what it does deliver is incontestable and of an absolute truth. [...] One could say that animated photography has a character of authenticity, accuracy and precision that belongs to it alone. It is the ocular evidence that is truthful and infallible par excellence!" (Matuszewski et al., 1898).

But the instant the camera frames something it becomes fiction, a selective memory of a moment and location as chosen by he or she who pushes the shutter release.

"The photograph is a memory: I remember what I'm seeing now. The film doesn't remember anything. The film always happens now.", documentary filmmaker Johan Van Der Keuken states in his 1974 film *Filmmaker's Holiday*.

This is especially true with virtual reality films. The immersant always experiences the immersion as happening here and now. He or she is present in the time and place (re-)presented.

There exist numerous postcards picturing many different views of the outside of the sanatorium as well as of the dining room, bedrooms, kitchen, washrooms, etc. inside. Positioning of the 360° camera will be done in relation to the perspectives represented in the postcards. The images from the postcards will be matched and fitted in the 360° equirectangular1 image during post-production.

In this way we aim to create windows inside the omnidirectional image which allow the immersant to glance into the past of the building, transporting him or her from the 'here and now' to the 'then and there'. Simultaneously it accentuates the constructed reality on the postcards which give the impression of an objective view of the different spaces in the sanatorium in a clinical way and lacking any human presence. The rooms in these postcards almost look as abandoned as the contemporary 360° images of the sanatorium...

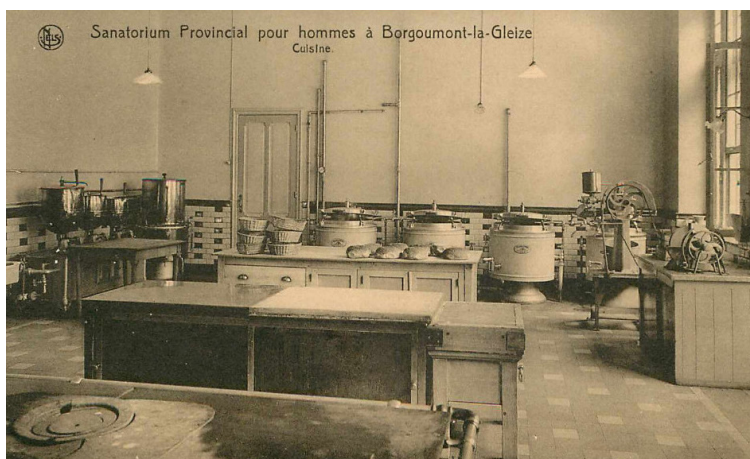


Figure f The kitchens then and now

Placing them in these omnidirectional images of the decaying hospital as it is now stresses the reality of what lies beyond the carefully composed frame of the postcard: the sick and dying patients. A reality which was kept from those back home. The frame of the photos is undone, placing them back in their original contextual space 100 years later.

Camera & Post-Production Effects

The camera in VR film productions is mostly static. The principle of 'presence' which we briefly touched upon before is strongly linked to the identification of the spectator with the camera. This is exactly the reason the camera height in VR productions is usually around 1.65m/1.70m – the average height of a human.

The mental translocation into the camera position also means that any camera movement which is not accompanied by a similar physical movement of the spectator will have an alienating effect at best, a nauseating one at worst.

In 'Memories in Decay' we want to exploit this alienating effect by using slow travels through the empty corridors of the sanatorium with the camera on higher than average position in order to create the feeling of being a 'ghostly presence', a 'spectre from the past'.

As mentioned before, camera positions will be partly decided by the perspectives of photos on the postcards. Furthermore, architectural similarities and match-cuts will contribute to the creation of discrete transitions between different spaces.

To match the perspective of the postcards with the camera position or to line up structural similarities in different shots, we developed a simple tool which allows us to superimpose the postcards or previously recorded shots onto the live feed of a Ricoh Theta handheld 360° camera.

We plan to shoot both video and HDR2 time-lapse sequences, the latter to stress one of the core concepts of 'Memories in Decay': the passage of time.

Due to the static nature of the images we plan to add simple atmospheric effects in post-production like dust, subtle lighting effects and noise.

Cinema, Storytelling and Immersive Experience

After witnessing a screening in 1896 of what is probably the Lumière brothers most famous film, 'L'arrivée d'un train à la gare de Ciotat', Soviet author Maxim Gorky wrote:

"Last night I was in the kingdom of the shadows. If only you knew how strange it is to be there. Everything vanishes and a train appears on the screen. It speeds straight at you - watch out! It seems as though it will plunge into the darkness in which you sit, turning you into a ripped sack of lacerated flesh and splintered bones... But this, too, is but a train of shadows."

It was the dawn of a new age with a new medium befitting the modern kaleidoscopic and fragmentary experience of time and space: cinema. The newest medium aiming to be the most expressive, most immersive and most true to nature in its representation of reality. While still mute and black and white – a world of shadows – at the time of Gorky's writing, these 'animated photographs' would soon enough add spectacular color, surround sound, captivating cinemascope and even stereoscopy in order to lay claim to the much coveted 'total immersion'.

Now, roughly a century later, a challenger arises: 'virtual reality', a decades old promise which finally can be kept due to advances in computing, cameras and display technology.

360° movies differ from traditional 2D film in a great number of ways. Traditionally editing is used in film to, amongst other things, focus the attention on certain elements. Close-ups of a face strive for a stronger emotional involvement of the spectator with the characters

while inserts of objects used to stress their importance in the plot, are two well-known techniques.

But even in traditional cinema this idea has already been questioned by numerous filmmakers.

As Chantal Akerman puts it in Marianne Lambert's (2015) documentary about her work:

"[That is] something which all great American directors do: they force you to feel what they want you to feel. They don't allow the viewer to be free in front of the film. That's what is considered to be a good director. I do the opposite and I hope that the viewer feels free to feel the film and not just understand it."

The desire to let a scene speak for itself, to let the spectator explore the image is not new and requires different sensibilities of a director in shooting the scene. Akerman continues:

"I shoot the scene. I won't film [the actress'] hand merely to show she has a ring. If the ring is important I will ask her to put her hand somewhere so we can see it, but I wouldn't go after it"

Perhaps one of the most famous and earliest films dealing with this concept is *Wavelength* by Michael Snow. In this 45 minute long film, consisting of one continuous zoom starting from the far end of a room to a picture of ocean waves on the opposite wall, the spectator is given the opportunity to discover the space at his own pace.

Shirley Clarke saw this film for the first time at the 4th experimental film competition at Knokke Le-Zoute 'Exprmntl 4' where she was part of the jury and later described it as:

"In Knokke Le-Zoute, we saw one of the next steps that's being taken, which was the film that got the first prize by Mike Snow [sic] and which is now going to be called the 'contemplative cinema'. Basically meaning you can sit and look at an empty room and 'see'. In other words you don't cut to a close-up and study things in the normal way that film has been dealt with, and that it has its own timespan, which is a kind of 'life' timespan" (Clarke in Burch & Labarthe, 1970).

VR video, or omnidirectional video, goes even further. Since the image covers the entire 360°, this means the spectator is free to look where he or she wants, free to focus on whatever he or she sees fit, unrestricted by the frame.

This aspect, in combination with the concept of presence creates a unique immersive experience. It is also one of the main reasons why VR films are generally slower than what we can tolerate in traditional films when they cut from one scene to the next.

Fast changes in space, where the spectator does not have the time he deems necessary to discover, experience or feel the space in which he finds himself quickly leads to frustration which in turn has a negative effect on the feeling of presence and subsequently the sense of immersion.

The 360° film no longer has a timespan which the spectator witnesses, but rather becomes the time the immersant lives it.

The freedom to explore the full 360° surround image also implies that certain actions in the image can be missed by the spectator: it is very well possible that at a crucial moment he is looking in the opposite direction. Because of this, unfolding a plot in the traditional sense is greatly complicated.

It can thus be argued that the techniques for telling a story in the pre-dominantly Hollywoodian sense can and should not be transposed to VR films. Inspiration can nonetheless be found in traditional cinema like, in the films of the aforementioned Akerman and Snow or the works of other directors like Bela Tarr:

"Most of the movies are working like: 'Information, cut, information, cut, information, cut' and for them the information is just the story. For me, a lot of things [are] information - I try to involve in the movie, the time, the space, and a lot of other things - which is a part of our life but not connecting directly to the story-telling. And I'm working on the same way - 'information, cut, information, cut,' but for me the information is not only the story" (Tarr in Pollard, 2011).

or him the function of a scene stretches beyond simply delivering the necessary information to move the plot forward.

The exploratory nature of 360° film shifts the focus from story to experience, from a fixed sequence of predefined shots to a unique chain of pans and tilts and focus points chosen in realtime by the spectator.

In Conclusion

The concept behind 'Memories in Decay' is rooted within the idea of creating an exploratory omnidirectional urban exploration experience with an archive documentary value.

It aims at transporting the immersant to a place where he or she would most likely never go physically and is augmented by the use of textual, auditory and visual archival materials to get a glimpse of a time where he or she could not ever go. While it is impossible to create an immersion which simulated life in the sanatorium in the beginning of the 20th century without extensive use of computer generated images or expensive re-enactments, we believe it is possible to create the experience of going into a memory of this place. The use of original sepia photographs taken then, the combination with a vivid audiotrack, the textual documents from that time and the experience of the current decay creates a multi-layered immersive virtual reality with a strong nostalgic atmosphere. 'Memories in Decay' is meant to take the spectator back to a place he feels he once new, perhaps from a previous life, and of which now only shards of memory exist – fragmentary and kaleidoscopic.

Like the sanatorium of Borgoumont, every place has its history, every building its past. Inevitably, as time goes by, decay sets in and only its stories live on. In the people that passed through, in the memories that remain.

Endnotes

- 1 Equirectangular projection is the standard projection used in 360° video. It is most commonly known as the way a world map looks when mapping the spherical shape of Earth onto a flat surface.

- 2 HDR or High Dynamic Range photography is a way to create images with a higher dynamic range in luminosity than with standard techniques in order to parallel the human visual system.

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METAMORPHOSIS OF CINEMATIC EXPERIENCE

EXPLORING THE FUTURE FOR
SCREEN CREATORS & AUDIENCES
IN A WORLD OF VIRTUAL &
AUGMENTED REALITY

BRUCE SHERIDAN



"...in this space... the three ghosts gather, the ghost of the past, the ghost of the future, and the ghost of things that might happen. They do not speak, they look at each other as if they were blind, and remain silent."



"My brain knows me, I know nothing about my brain"

Both quotes: José Saramago - *The History of the Siege of Lisbon*

The cinema is not a place, it's a conceptual realm, where physical, mental, and emotional processes converge as a consequence of designed modulations of sensory experience and our individual and collective expectations. Much theorizing about screen media draws on outdated models of the human mind, and emphasizes discrete

modes defined by quantum technological shifts that are assumed to replace each other as humans march resolutely into the future. In this presentation I challenge the linearities and dichotomies at the heart of the ways we speak about both the mind and screen media, and draw on my research into human creativity from the perspective of embodied / extended / enactive theories of mind to argue that “cinema” is the chrysalis from which all iterations of screen media emerge. CINEMATIC EXPERIENCE transcends its physical and historical origins through ongoing metamorphosis.

The unifying theme of what I will share today is that contemporary evidence from fields such as philosophy, neuroscience, cognitive psychology, and AI / Robotics (especially machine learning) overturns entrenched beliefs about the human mind, in particular computational metaphors for cognition that rest on assumptions about representation in the head. The degree to which we understand this and make it central to how we both conceive “cinematic” and actively evolve screen education will have a substantial impact on the screen arts and industries.

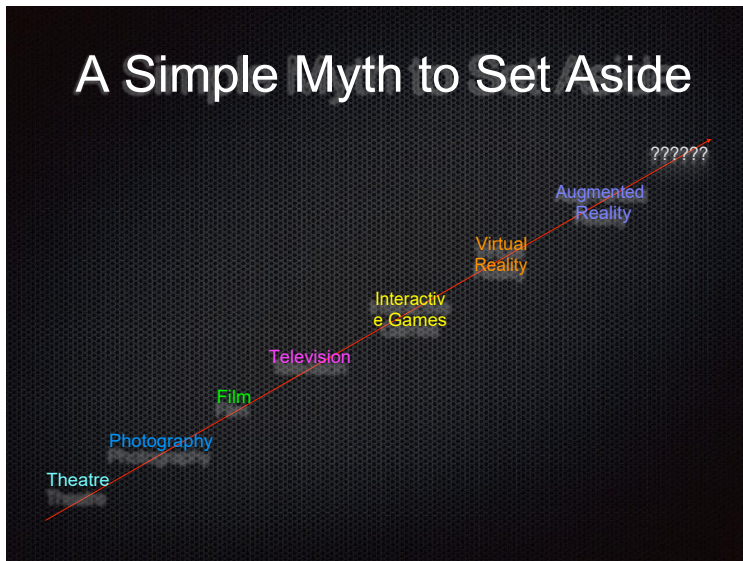
The cultural prominence of film and television and the hegemony of brute computational theories of mind have been mutually reinforcing for a century. It's also natural to carry the assumptions of legacy screen media into the realm of virtual reality, augmented reality,

and whatever follows. These new forms provide a rare opportunity to recalibrate because they can mesh well with the emerging picture of human mentation. I am referring to the embodied mind / extended cognition model, which in its most radical form, enactivism, incorporates the possibility of representation without content, something that would appear to be heretical for those of us who trade in “content as representation”.

First, I want to challenge what I think of as two conceptual tyrannies. These are organizational approaches humans have evolved to deal in simple ways with the complexity of the world, but which are easily taken to define reality rather than merely facilitate expediency.



Tyranny #1: Linearity

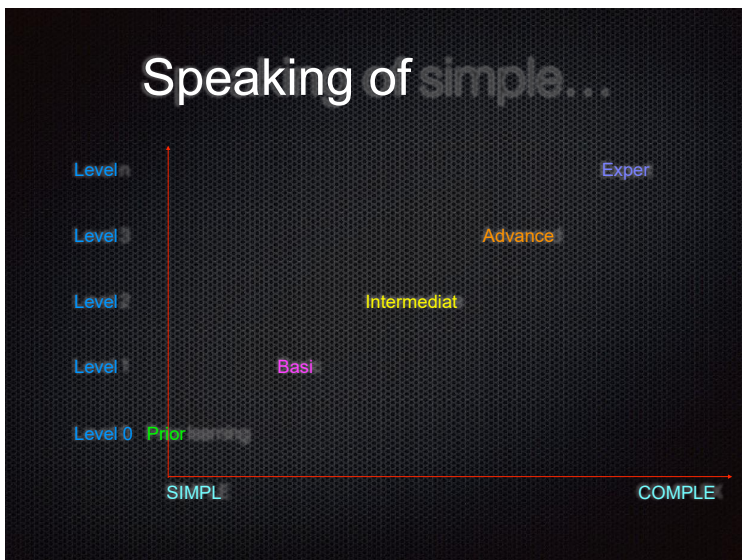


Total replacement does not happen. In many countries the dominant approach to media education is based on hard distinctions between formats (and their linked modes of presentation) such as film, television, and interactive video. This smuggles in an assumption that new modes eventually render preceding modes redundant. Though over time older forms move away from the center of the cultures they once dominated, that evolution can help to concentrate and refine them in ways that identify and make more relevant their core

characteristics. This is the case with theater and photography, two arts that spawned film and so are the progenitors of the lineage that includes television, interactive video, and now virtual and augmented reality. Cross-pollination, adaptation, and evolution rule, and to such a degree that our inclination to define education pathways as production technologies and presentation modes is deeply flawed - it's an inherently conservative approach that defines the future by the past in a domain that is constantly fluid.

There's a second false linearity built into much screen education: the separation of simple and complex competencies, which is an historical assumption of most formal education in the West that was smuggled into screen programs when they were grafted onto older, primarily analytical teaching methodologies. Here's this linearity represented in a manner most screen educators will recognize

This is a convenient approach for administrators. It helps to organize all the elements of formal education - levying of fees, deployment of teachers, scheduling of physical resources, planning of production requirements etc. - and it makes moving students through degree programs as discrete cohorts very easy. At the course level, teachers can feel confident that incoming students have been well prepared by their prior coursework, and all that is required in their current learning is acquisition of competencies that will prepare them for the next level. In short, it's the educational equivalent of taking a ship through the Panama Canal.



However, in high level, technologically mediated creativity, the simple and the complex are intricately entwined (this may be true for all creative endeavors, but here my focus is on the professional screen arts). In this context, no two creative challenges are identical. They present as complex problems because every decision impacts other parameters, and must be solved in the moment under significant time and resource constraints. By allowing simple principles and

competencies to be mastered then left behind, while attention narrows to intermediate then advanced principles, we undermine holistic competency, which is essential for professional screen creators.

Extrinsic and intrinsic learning were fully integrated through human evolution and remain so in early childhood (if you are interested in this, read Kim Sterelny's book *The Evolved Apprentice*). However, formal education, especially in the now dominant market-driven form (the forces of which apply even when governments fund student tuition), mostly separates extrinsic and intrinsic learning because the former can be specified in syllabi, charged for, and evidenced empirically via demonstrations of discrete competencies. No student, parent, or government is going to pay for education if our promise is that there will be a lot of learning, but we can't specify all of it up front or measure every aspect as a discrete competency after the fact.

While I believe it is likely screen education will separate from traditional university and college institutions in a variety of ways over the next few decades, there's much we can do right now to reconfigure screen education in ways that mitigate the negative aspects of a simple / complex linearity. This includes deploying new technologies such as VR as holistic learning mechanisms.

Tyranny #2: Dichotomy

Set Aside Polarized Binaries

Body / Mind

Left Brain / Right Brain

Conscious / Unconscious

Analytical / Creative

Specialist / Generalist

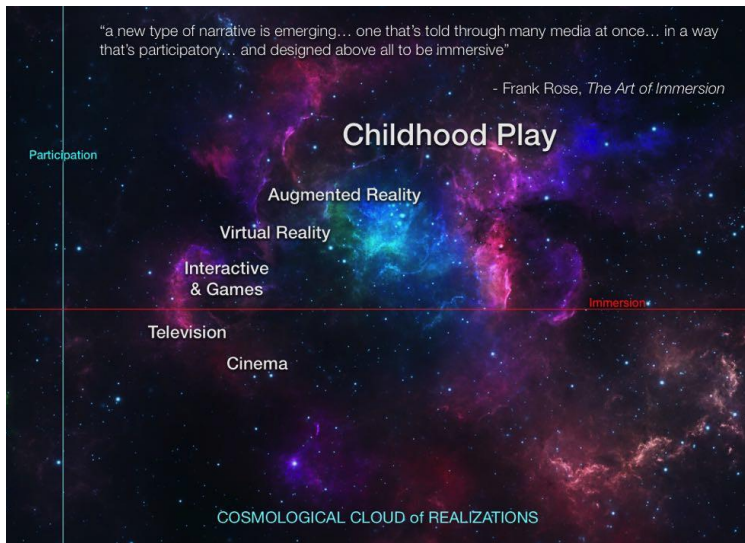
Type / Token

Film / Digital

Creator / Audience

Another human expediency with deep evolutionary roots is the inclination to sort parameters into binaries, which can be extremely useful in life and death situations, but severely limiting when analyzing complex phenomena. The examples on the slide are discredited and/or fundamentally misleading, although each retains a power in our culture and in education that it does not warrant. It will be possible to use both VR and AR as learning tools in ways that weaken such strong polarizations and facilitate exploration of each as nodes in matrices rather than binary oppositions.

Participation and Immersion



Two key drivers of audience (or user) engagement with screen media are participation and immersion. All screen media can be plotted against those parameters, and the chart above represents one way of doing that, which, though arbitrary, is not unprincipled. If we were to look at specific instances - individual films, television shows, video games, VR/AR projects - they would disperse across the chart: not all applications of any of these modes have the same level of audience participation or immersion. This is important because it can seem that wearing VR goggles must be inherently more immersive

than sitting in a movie theatre; that the goggles lock our visual and auditory senses to the work in a manner that a movie theater does not. I think this way of understanding immersion is wrong, but the important issue for me is that none of our entertainment technologies is more participatory or immersive than childhood play. All the modes, formats, and platforms subserve immersion and participation. The platform that matters is human cognition - how we think, remember, imagine, feel etc.

Cinema / Cinematic



In discussions about the development of VR/AR, the terms “cinema” and “cinematic” are often used in ways that lack precision, and for the most part miss a crucial opportunity. CINEMA names the “ur” or “proto” language of visual screen media, which I recently addressed in a chapter for the CILECT book *The 21st Century Film, TV, and Media School*:

“...there is an important way in which the film format and its correlated mode of presentation, cinema, is effectively timeless. It was through the language of cinema that human beings first came to describe and analyze the spatiotemporal capture and transference

of what previously could only be experienced as it happened and by direct proximity. Still photography overcame the proximity requirement [through apparent visual verisimilitude], but it was not until images moved, and then sound moved with them, that the temporal flow of action in the real world could be transported to and experienced sensorially in other places and times. All screen forms are rooted in that original language."

Each iteration of screen art appears to be an extension and/or expansion of the kind of representation we assume is going on in our minds. It's as if we consider cinema to be coopting our internal representational processes: a way of turning the mind inside out, so that an über version of "representation in the mind" is projected before us, commandeering our memories, imaginings, and sensory perceptions. At least that's how it seems.

The logical extension is that new iterations such as interactive games, virtual reality, and augmented reality, are advances in externalizing representation the way we assume it to occur in the mind achieved by more effectively tethering sensory perception, imagining, and memory to the experience. On that construction, cinematic means the power of "representation in the mind" externalized. But there's a problem: cognition as computation over mental representation is probably not how the mind works. It's the brain's immersion in and dynamic relationship with the body and various physical, social and

cultural environments, that scaffolds the mind and defines cognition. The engagement we call “cinematic” is not derived from representation, but from organismic immersion. Thought of that way, cinema has still not been realized!

The VR/AR Zeitgeist

- **AMC Entertainment Holdings**, the biggest cinema chain in the U.S., is investing at least \$20 million in virtual-reality arcades and productions as growth stagnates for traditional moviegoing. The exhibitor, which has lost half its market value this year after a poor summer box office, will be the lead investor in a \$20 million series B financing round, committing \$10 million to virtual reality entertainment company **Dreamscape Immersive**. Another \$10 million will be invested in a content fund, and the chain will finance the rollout of six VR centers in North America and the U.K. over the next 18 months. AMC, which in June unveiled an Imax VR center at one of its multiplexes in New York City, could use the technology to attract more young people to theaters and rekindle their interest in movies. While Imax Corp's VR centers allow players as a group or individually to participate in various VR games and experiences, **Dreamscape Immersive** lets up to six people walk around a virtual world as an avatar, untethered to a computer and using their entire body as they would in the real world.

- **CAA** has signed its first fully Virtual Reality director: Kevin Cornish, who has established himself as a leader in directing high-end, cinematic VR, putting together content for brands ranging from IBM, Google, Oculus, Discovery, MTV, AT&T, Ram Truck and AMD and has worked with such talent including Taylor Swift and Karlie Kloss, has signed with the agency. It will also rep his company Moth + Flame, a full-service virtual reality agency.
- **Apple's Bet On AR & The Future of UI Design** - headline of article www.iotforall.com August 2017
- **Augmented and Virtual Reality in Education—Part 2: Higher Ed: We are entering a new era in higher education** - headline of article www.iotforall.com, September 2017
- **The VR Cinema** opened early 2016 in Amsterdam, and has now expanded to other countries, including China, Finland, and Romania. The owners make these claims:
 - You will not only watch your movie, you will *experience* it.
 - *Immerse* yourself into magnificent worlds where you could never go before.
 - Sound that in a way moves in the same direction as your head

"I was blown away. Watching virtual reality in your cinema felt like stepping into another era: the future."

Dieter Mayerhoffen, Berlin, March 2016



Recently a 3D animation student named Nick Ladd studying at Dawson College in Montreal created a short film called *Escape* using VR tools: <https://youtu.be/D9MScGQkdQI>.

"Drawing in VR is actually a very intuitive experience. Being able to see depth while you work and rotate by grabbing with your hands saves a lot of time. I made a rough storyboard for the film but quickly scrapped it when I was able to find better shots within the program. I think being able to physically feel like you're in the environment, and move and grow and shrink that environment, can really help quickly plan shots."

What's interesting to me about this is that Ladd explored options, then used what worked best for him in a specific situation. He didn't abandon filmmaking for VR or ignore VR because he saw himself as a filmmaker. Many young people who aspire to work in the screen arts are inclined to this kind of openness and flexibility in spite of the demarcations imposed by formal education.

Now some thoughts about human cognition in light of my claim that it is THE platform all media modes subserve.

Cognitivism and Representation

Here's a simple summary of cognitivism:

- the senses supply a data stream of information from the environment
- the mind, located entirely in the brain, fixes that stream as static representations of the external world
- the mind applies computational operations to the static representations
- goal states for the organism are generated as outputs those computations
- instructions are sent from the mind to the body via nervous & endocrine systems
- motor capacities respond to the instructions, so yielding actions

This is the projection of a metaphor derived from our latest and most sophisticated machinery – the computer. Through the ages that's what human beings have tended to do: apply the metaphor of their most sophisticated technology to the function of the mind.

One consequence of computational cognitivism is the dogma of localization and modularity. Yes, there are areas of the brain that tend to be associated with specific neural processing, and yes, it can be useful to treat some mental functions as modular, but these are analogies, a convenient kind of mapping to orient ourselves and generalize. Brain plasticity, neural connectivity, and the extremely complex, layered patterning of neural transmissions are all crucial, as are the brain's body and environment integrations. One way to think of the normally functioning brain is as the ultimate collaborative hive.

Another discredited dogma relates to brain plasticity – it's astounding just how much the brain can repurpose; how adaptable and flexible neural function can be. Adaptation and flexibility are fundamental to human success, yet we have built educational structures that inculcate hyper- specialization and silo away areas of specialization from each other. In many fields, it is now likely that a dedicated young person will mostly encounter people with the same interests and knowledge as them all the way from high school through higher education and beyond. There's nothing wrong with specialization... until it atrophies adaptability, flexibility and creativity...

Now we have technology that far outstrips human memory and brute computational power, technology that can take the burden of hyper-specialization from humans and free them up to be adaptable, flexible, and creative... This is the future of enlightened education. Hold that thought!

Embedded / Embodied / Extended / Enactive



Over the last couple of decades there has been a steady march away from seeing the mind as a kind of fleshy computer trapped inside the skull. The basic idea is captured in this statement from Esther Thelan, one of the early proponents of embodied mind / extended cognition theories:

"Cognition depends on the kinds of experiences that come from having a body with particular perceptual and motor capacities that are inseparably linked and that together form the matrix within which, memory, emotion, language and all other aspects of life are meshed."

Esther Thelan

Since that was written, many different flavors of this kind of thinking have developed, with the most radical going so far as to hold that at the basic level, a mind does not need contents to function, nor can it be best explained by processes involving the manipulation of contents.

That's for philosophers to argue about - and they are, heatedly. My interest is in the move away from the mind as brain-bound fleshy computer to the understanding that human mental life is dependent on the nature of our bodies and our environment - physical, cultural, and social.

This impacts how we approach all experiential media and should inform how we develop new screen modes such as VR and AR. The cinema is not a building, a screen, and speakers, and it never really was. The cinema is simply our first screen-based EXPERIENTIAL MATRIX.

Here are some characteristics of normal human mental function:

- Human beings DESIGN the worlds they live in and construct FUTURE SCENARIOS.
- We can manipulate and integrate our past, present, and future “maps” (real or imagined) through the interplay of all our cognitive capacities and emotions.
- We can combine and recombine recursively to generate DISCRETE INFINITY: the arrangement of finite items in an open-ended system.

All these processes are ACTIVE. We are "DOING" animals, driven to project, predict, detect, compare, and adjust. The idea that we are innately distanced from our environments, fundamentally contemplative, and impelled to act only by necessity or command is wrong.

Andy Clark, a leading philosopher of embodied mind / extended cognition, has said

"It matters that... individual thought and reason are not activities that occur solely in the brain or even solely within the organismic skin-bag... because it drives home the degree to which environmental engineering is also self-engineering... In building our physical and social worlds... we build our minds and our capacities for thought and reason."

This is a monumental claim, one I believe is correct. Another way of expressing this is to say that we engineer our selves (and set our horizons) when we engineer our environments. VR/AR technology advances the way visual and aural experience engineer the environment - at minimum the environment of current experience, but likely more than that if machine learning continues as it's going and direct biological / machine interfacing becomes a reality (which may be the "reality" beyond VR/AR).

Creativity



Human creativity is fundamental, ubiquitous, and continuous, from the mundane to the exemplary. All our cognitive processes and emotions can contribute to creativity, which underpins counterfactual thinking, one of the most important impulses driving how we act in the world. By imagining changes to the way things were or are, we infer variations in how things could turn out, and are in-

clined to make causal assumptions based on comparisons between the actual chains of events and our counterfactual extrapolations. This capacity mixes real world experience with imagining, and contributes to how we both tell and respond to stories.

Our ability to generate imaginary worlds and make counterfactual manipulations of the real world are not held apart but deeply interpenetrate. Irish philosopher Ruth Byrne and others have shown that the assumed polarity between rational thinking and imagining that underpins much of how education is structured is a false dichotomy. Our rational thinking draws from imaginative processes such as

counterfactual thinking, and when we imagine, our experience of the real world informs what we create. (This is why even the most imaginative of science fiction seems familiar.) Children don't hide from reality in imagined worlds, which is a false assumption built into much Western education through Piaget's Freudian interpretations:

"For as soon as on immediate action there follows, or is superposed, a thought that is detached from reality and set free by the power of words or imagination, the mind is thrown out of focus, a whole set of illusions of perspective prevails, and especially the unconscious illusion of egocentrism."

Jean Piaget

By Piaget's judgement, words and imagination detach the mind from reality and defocus it. (I have a feeling he would hate VR/AR.) The reverse is true: children focus through their imagination. They build their understanding of reality and develop their creative capacities through the interplay of experience and imagining.

Creativity is often thought of in terms of discrete sub-processes and stages such as:

- Inspiration / motivation
- Exploration

- Incubation
- Combination
- Illumination
- Elaboration
- Transformation

My feeling is that this merely reflects our inclination to compartmentalize, but this way of carving things up can be helpful for learning as long as integration and flow dominate.

Much attention goes on the products of creative processes because these are easily identified, measured, traded etc., something that is reflected in the way copyright and the lawful exploitation of intellectual property function. This also contributes to the conflation of creativity and innovation, which are related but not identical.

Creative processes are at least as important as their products, and the “product” of one creative process can be a new process (machine learning incorporates this principle).

Constraints often enhance creativity, and the absence of constraints can be counterproductive. Perception, experience, and our under-

standing of how the world works are all constraints on imagining, at least to the extent of inclining us to favor the plausible and physically possible when we imagine. We can **choose** constraints from elements that are already in use within the relevant form or style, we can **invent** new constraints, and we can work within boundaries of **imposed** constraints, which typically arise from external circumstances that cannot be avoided.

One way to think of creativity is as a **constrained stochastic** process, as involving a high degree of **randomness** that is **constrained within conceptual boundaries** or domain conventions, and **framed or directed by prior experiences and knowledge**. Highly random, minimally constrained creativity has a low probability of yielding coherent, useful outcomes.

Minimally random, highly constrained creativity can generate coherence and utility but is less likely to produce high degrees of novelty and value.

When human creativity is understood this way, it's easy to see how VR experience taps directly into it. Users become "creators" of (and in) the flow of each participation, which is unique - never exactly repeated.

Play

There is considerable evidence that evolution has built on and strongly reinforced play as a learning mechanism in many animals, including humans. Anyone



who has spent time with young children will know just how powerful a catalyst for learning play can be. This can appear to be well acknowledged in formal education because even the most advanced students are given “time to play”.

However, Patrick Bateson and Paul Martin identify a very specific mood they call “playfulness”

that is particularly conducive to creativity but not commonly part of education, even for the most creative disciplines. When play is playful in the relevant sense, it is entirely intrinsically motivated. The whole purpose is the playing itself, rather than any result or outcome. We might think that an élite sports team is performing so well that the players are performing “playfully”. However, if the team begins to lose, the approach will change, which indicates that regardless of how much “play” is involved, what the players are doing is extrinsically motivated - oriented towards externally defined and measured

results - rather than fundamentally “playful” in the sense Bateson and Martin intend. This “externally defined and measured” approach to play is what dominates in formal education, where we are willing to allow “purposeful play” but far less inclined to tolerate “playfulness”.

Play mediates interactions between thinking, imagining, and communication through physical experience. In a sense, young children deploy their bodies (and their social interactions) in the development of their minds, which correlates well with many claims made by embodied / extended theories of mind. Expectation, trial through action, and adjustment in response to results all operate when we play, and we gain knowledge that is both explicit and implicit - these two characteristics are entwined.

Where play is utilized in education beyond elementary levels, it is rarely non-goal oriented, with the result that a lot of creative potential goes untapped. In rule bound-disciplines, it is difficult to support students to have fun while breaking rules, but disruption can yield high degrees of creativity.

Noble prize winning physicist Richard Feynman was deeply aware of the tension between formal aspects of specialized fields and the value of playful play:

"Physics disgusts me a little bit now, but I used to enjoy doing physics... I used to play with it. I used to do whatever I felt like doing—it didn't have to do with whether it was important for the development of nuclear physics, but whether it was interesting and amusing for me to play with it."

Richard Feynman - *Surely You're Joking Mr. Feynman*

While there is a clear need in the educational environment for (minimally playful) acquisition of knowledge, and mastery of relevant skills through analysis and rational thinking, many fields have become so specialized that the crucial role of playful play in stimulating and enhancing creativity is marginalized.

Collaboration

It can seem that we start as individuals who then become part of communities, but we are socially and culturally embedded from birth. Our "I" does not so much venture out discretely into the "We World" as constitute a coherency within a "We Matrix". WE precedes I.

"Creativity is not the product of individuals, but rather of social systems making judgments about the products of individual creativity."

- Mihaly Csikszentmihalyi

Human cognition adapts to our complete environment. For our species in particular, the sociocultural matrix is an extremely important environmental component. We rely on knowledge that has been accumulated within and is distributed across our social worlds, and even when we create in isolation, we are collaborating with this reservoir of knowledge and experience. Extreme isolation is rare: more often we are collaborating with other creative agents.

It can be easy to assume that collaboration is summative: the simple addition of the individual contributions. This can certainly be how it looks on a film production, where specialists contribute their expertise in service of a script, a director's vision, or the strategic aims of the producing team. However, our birth into and development through sociocultural matrices is so fundamental to how we collaborate that for collaborative creativity to be fully realized it has to yield more than the sum of the contributions.

Teams and groups can be creative quickly and in a more multidisciplinary manner than individuals, and individuals can have a greater level of psychological safety in creatively successful teams where risks are shared and incremental failure less likely to be fatal to the enterprise, yet education is structured around and delivered in a manner atomized to the individual.



The key idea is that individual and collaborative creativity are interdependent though distinct, much like the relationship between the individual tiles in a mosaic that capture our attention up close, and the overall picture we “read” at a distance



without losing awareness of the pieces mediating its existence and facilitating emergence into conscious awareness.

Improvisation

Improvisation is paradigmatic collaborative creativity with these characteristics:

- Yields novel outcomes - no two improvisations are identical (creative)
- Is impelled and unfolds in the moment (spontaneous)
- Often emerges from individuals interacting in groups (social)
- Facilitates engagement of all participants by exchange and negotiation (accessible)

Philosopher Gilbert Ryle held that all cognitive processing is itself a form of improvisation, a notion that could be very useful when creating VR/AR environments designed to support user creation and or direction of their own experience.

Group improvisation challenges the myth of the disconnected genius and necessarily maintains interplay between quotation and originality. Some ideas emerge in the moment, but many are worked out over time, arising not from isolation from but connection with other artists, the history of the form or genre, the world of everyday life, and wider human experience. Complete departures from what has gone before are rare, although significant advances are often made. All art making and scientific discovery is in some sense appropriation that incorporates varying degrees of borrowing, and refers beyond itself to what already exists and is anticipated, desired, or feared by others. Sharing may be a more accurate term than appropriation. Sharing is a characteristic inherent in our existence as social beings and definitional of the emerging digital ecosystems and their incorporated social media.



Back to the Future

I have argued that cinema is a conceptual realm, that cinematic experience transcends its physical and historical origins through ongoing metamorphosis, and that everything we do with screens (and maybe even beyond the need to use screens) can be cinematic because “It was through the language of cinema that human beings first came to describe and analyze the spatiotemporal capture and transference of what previously could only be experienced as it happened and by direct proximity.”

After commenting on the growing impact of VR/AR technologies, I identified the limitations of cognitivism as a way of understanding human mentation, advocated for an embodied mind / extended cognition approach, then used that perspective to explore aspects of creativity, play, collaboration, and improvisation. References to screen education and professional practice were threaded through those sections.

So, what can we take away if the coming VR/AR world is another manifestation of the cinema? First, it's clear that many concepts and skills central to film and television remain relevant to VR, though they will evolve substantially:

- Narrative: Implicit in discussions of narrative are its absence and subversion through experiment, abstraction etc. It should be noted

that we have not yet evolved away from the expectation of narrative, (although that process may well be underway). Long before Aristotle, Jung, or Campbell, humans existed as environmentally situated individuals experiencing in time and space (and increasingly through sociocultural matrices), and seeking to detect cause, make predictions, track outcomes, and expectations and actions. These inclinations, however unconscious, still underpin our engagement with screen experience, even when it comes through goggles and headphones.

- Ellipsis: this is a powerful force in cinema, but even there it only taps a narrow range of cognitive processes that can be thought of as inherently “ellipsis completing” - impactful cinema often engages the viewer by requiring that she “fill in” what is not directly presented. How ellipsis can function in VR/AR is an open question that invites creative exploration.
- Editing: in movies and television, editing affords tight control over the audience’s visual attention through the use of different shot sizes etc. However, in 360° entertainment environments, a viewer can look pretty much anywhere she chooses at any time, which impacts many creative aspects, including the concept of “direction”.
- Audio: we can prevent ourselves from seeing by closing our eyes, but we have no equivalent way to stop audio (or touch or smell) from eliciting responses. Sound affords deep, direct penetration that is minimally dependent on conscious attention and is able to

override attentional filters. These characteristics will likely make manipulation of the audio environment a key mechanism for “directing” participants’ attention (when that’s the aim).

- Direction: most aspects of a screen director’s control over how their work is experienced could change significantly in VR/AR. This will include further evolving the ways that participants are able to direct their own experience.

In my view, all of these named elements will be best approached through an understanding of the mind as embodied and extended.

I recently discussed VR with the CEO of Virtual Reality Associates, a VR creative company based in Manchester, U.K. Here are some thoughts of Nathan’s about where VR is, what it needs, and where it’s headed:

- The current generation of VR is 5 years old. It’s just started school.
- VR is NOT gaming. The video game environment is an emergence site for VR, the same way vaudeville and music halls were for early cinema.

- Right now we are getting 360° video without 360° audio.
- Mass education and empowerment is required across both the professional environment and educational programs.
- The principles of storytelling change glacially if at all, mediums are increasingly "liquid", and audience attention spans are plummeting. However, at a time when there's more media than ever before in recorded history, this new medium offers us the opportunity to un-frame our stories, and to invite our audience to step inside like a magicians assistant into a wooden box.
- VR allows an exponential increase of the audience's imagined and experienced mindscape
- VR demands dynamic, cross-discipline skills from content creators
- There are not enough content creators at the required level
- The mindscape of aspiring content creators needs to increase exponentially
- The form will mature when innovation outstrips imitation
- VR/AR needs an Orson Welles, not a James Cameron

Creating and Experiencing Future Cinema

The nature of work and employment in the 21st century is highly contingent and favors the very capacities educating for creativity will enhance.

As AI/Robotics produces machines with memories and computational capabilities orders of magnitude greater than human beings, it is our creativity, the least algorithmic force in the known universe, and its myriad manifestations, that will continue to guarantee our place, our purpose, and our power.

Learning is an inherently dynamic, adaptive process enhanced by participation and immersion. VR, AR, and whatever follows, will expand what “cinematic” can mean and provide educators with inherently immersive and participatory technologies to both deliver learning and model the professional world.

ESSEMBLE:

BRIDGING THE FRONTIERS BETWEEN FILM AND ANIMATION

Editor of the Book

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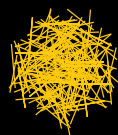


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