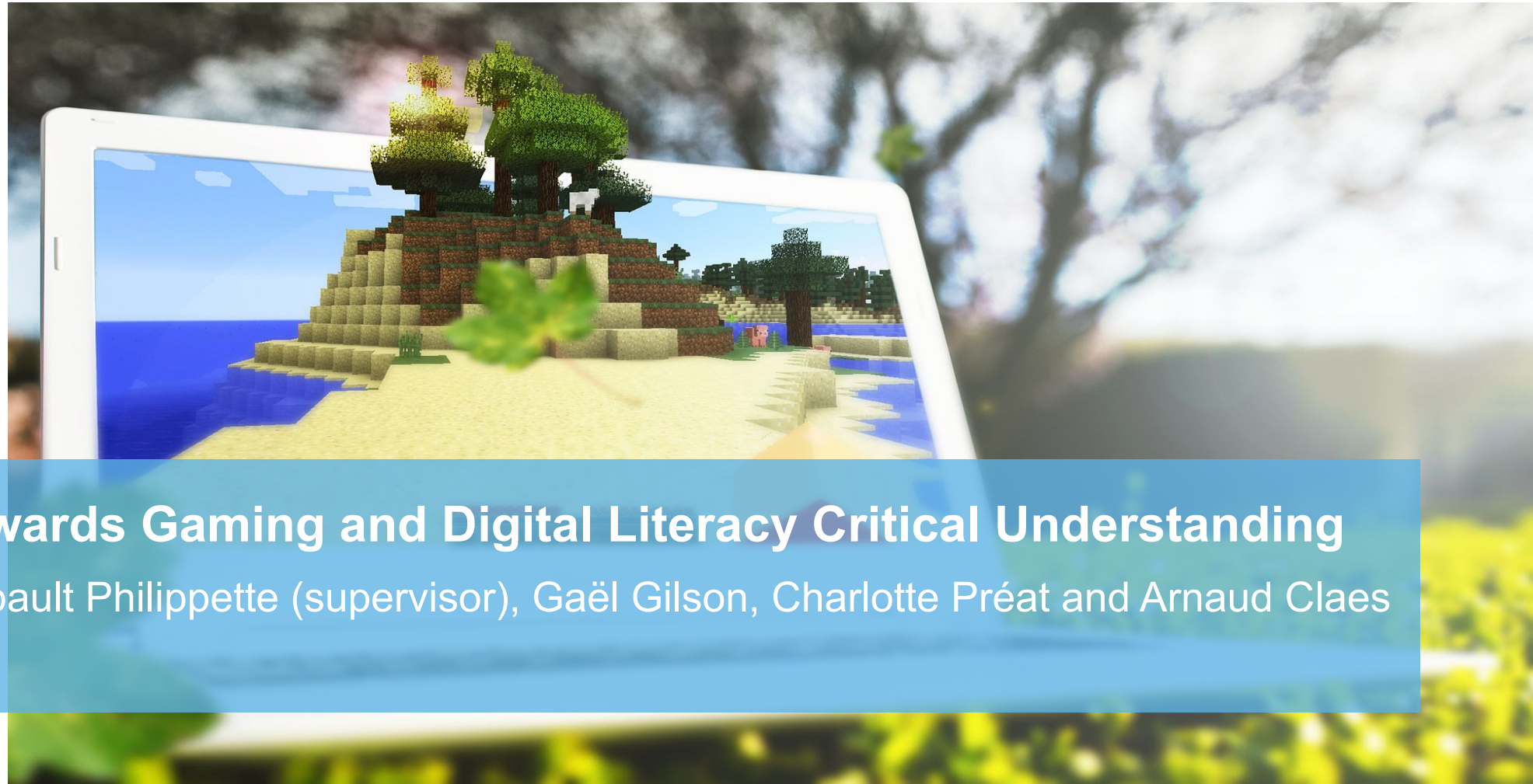




UCLouvain

05.24.2019 - Symposium



Towards Gaming and Digital Literacy Critical Understanding

Thibault Philippette (supervisor), Gaël Gilson, Charlotte Prémat and Arnaud Claes

Introduction

by Thibault Philippette (supervisor)

Gaming Literacy

Influencing work of James Paul Gee, Mark Prensky or Henry Jenkins

Good videogames include good learning principles:

Empowered Learners

Problem-based Learning

Deep Understanding

Agent or co-design principle

Customization

Identity

Manipulation

Well-ordered problems

Pleasantly frustrating

The cycle of expertise

Fish Tank

Information just-in-time and on demand

Sandboxes

System thinking

Skills as or under Strategies

Meaning as Action or Situated Meaning

WHAT VIDEO
GAMES HAVE
TO TEACH US
ABOUT
LEARNING AND
LITERACY

REVISED AND UPDATED EDITION

“A transformative work. Gee is the Johnny Appleseed of the serious games movement, planting seeds that are springing new growth everywhere we look.”

—HENRY JENKINS, author of *Convergence Culture: Where Old and New Media Collide*

JAMES
PAUL GEE

Gaming Literacy problem?

(video)games are various

Few access to research datasets

Playing a game is an idiosyncratic activity

Avoidance of the effects of the "context of learning"

Games, Learning and Literacy: Rethinking "Playing the game"



(Video)Games as formal systems



(Video)Games as cultural activities



(Video)Games as "phenomena"



"A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome."
—K. Salen & E. Zimmerman (2003). *Rules of Play: Game Design Fundamentals*. Cambridge (MA) : The MIT Press.



Playing is "[...] a *free activity* standing quite consciously *outside 'ordinary' life* as being '*not serious*,' but at the same time *absorbing* the player intensely and utterly. It is an activity connected with *no material interest*, and no profit can be gained by it. It proceeds within its own *proper boundaries* of time and space according to *fixed rules* and in an orderly manner. It promotes the formation of *social groupings*, which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means. "
—J.Huizinga (1938). *Homo Ludens: A study of the play-element in culture*. London: Routledge.



"The player lives on two levels. He does what he does and at the same time he plays. He plays in doing what he does. His playing is due to the distance he puts and tries to maintain between what he does and what he does when he is doing." [our translation]

—J.Henriot (1989). *Sous Couleur de Jouer*. Paris: José Corti.

Ludoliteracy

- Evaluate the ability to play games
- **Evaluate the ability to understand (and foster) meanings with respect to games**
 - **In the context of human culture (i.e. educational context)**
 - **In the context of other games**
 - **In the technological context**
 - **Educate to the structure and components of games**
- Evaluate the ability to make games

J.P. Zagal (2010). *Ludoliteracy: Defining, Understanding and Supporting Games Education*. Pittsburgh: ETC Press.



The media and digital literacy debate

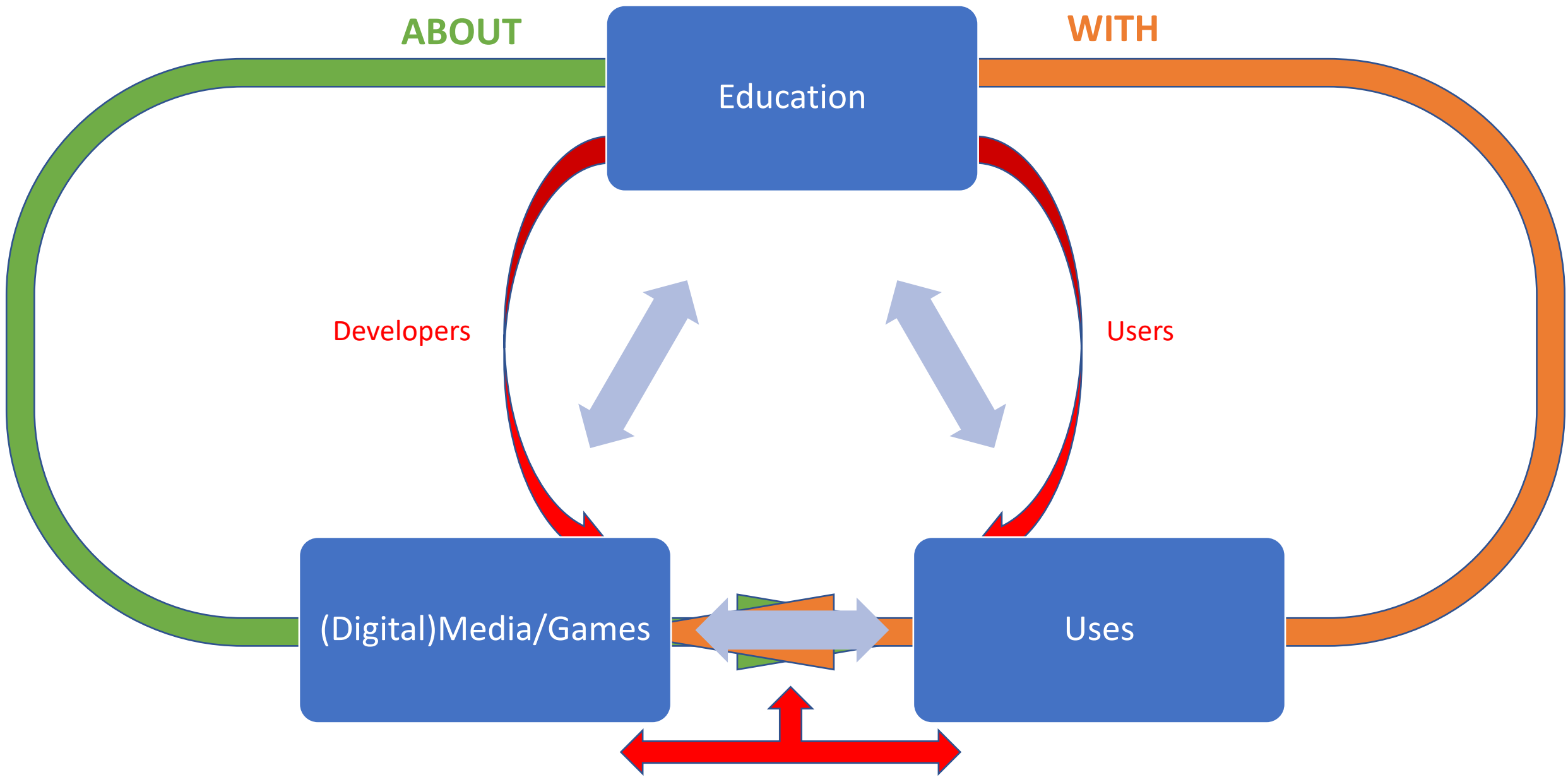
- Sonia Livingstone et al. (2008) support a convergence of research traditions between *Media Literacy* and *information Literacy*. "We [have to] do the same with Digital Literacy."
- The "digital" in the media literacy e.g.
 - Access
 - Understanding
 - Judgement
 - Creation
- Addressing critical or judgment competences on the technical dimensions of the media (and not just their content) opens up new challenges in media education (algorithms, A.I., etc.)

Charlotte Gaël Arnaud

Critical Understanding of

ABOUT

WITH



Gaming Literacy and Gaming Education

by Gaël Gilson and Charlotte Prémat (PhD candidates)

PLAYING IN THE CLASSROOM?



Despite an absence of game pedagogy, there are a variety of **isolated practices**.



The (video) game is often a **tool** and a **detour**, but it is rarely studied as a **cultural work**.



PLAYING IN THE CLASSROOM?



"A school-oriented game [...], not to do like a Monopoly, that doesn't make sense here. [...] That's also the purpose of the games, otherwise we wouldn't do it, it's to make it playful, cooperative and, **for the children, to have fun during the game** too. But we must not forget why we are also playing the game, so **which subject we are targeting**."



"It happened to me to create some games where I realized that it was still too school-oriented. Where the child felt too much that it was still work. And, as a result, he is less motivated, since he doesn't really see it as a game. So I'm still trying to take **games where they really feel like they're playing**, to make it fun. But they know it, I tell them anyway, because **I don't want my pupils to say 'here, we'll play and not work anymore'**."



PLAYING IN THE CLASSROOM?



"I try, as much as possible, well I improve myself from year to year, to really think about the skills. [...] This holiday, I classify my games and so I really look for what is the objective of my game and what are the skills worked in relation with the **program**."



"The children [...] they tell the parents 'we played in class today'. So the **parents** come to me at the beginning of the year because they don't understand. For them, playing is not working, so you have to explain it to them and then they become familiar with it and understand. Finally they see well that the content is seen so, that is not a problem."



EXAMPLES OF PRACTICES



TowerFall Ascension (Matt Makes Games, 2013)

Teaching purpose :

Exploit the adverbs of manner, the hyperbola and the lexical field of the battle to describe orally the epic dimension of a scene.

Three postures :

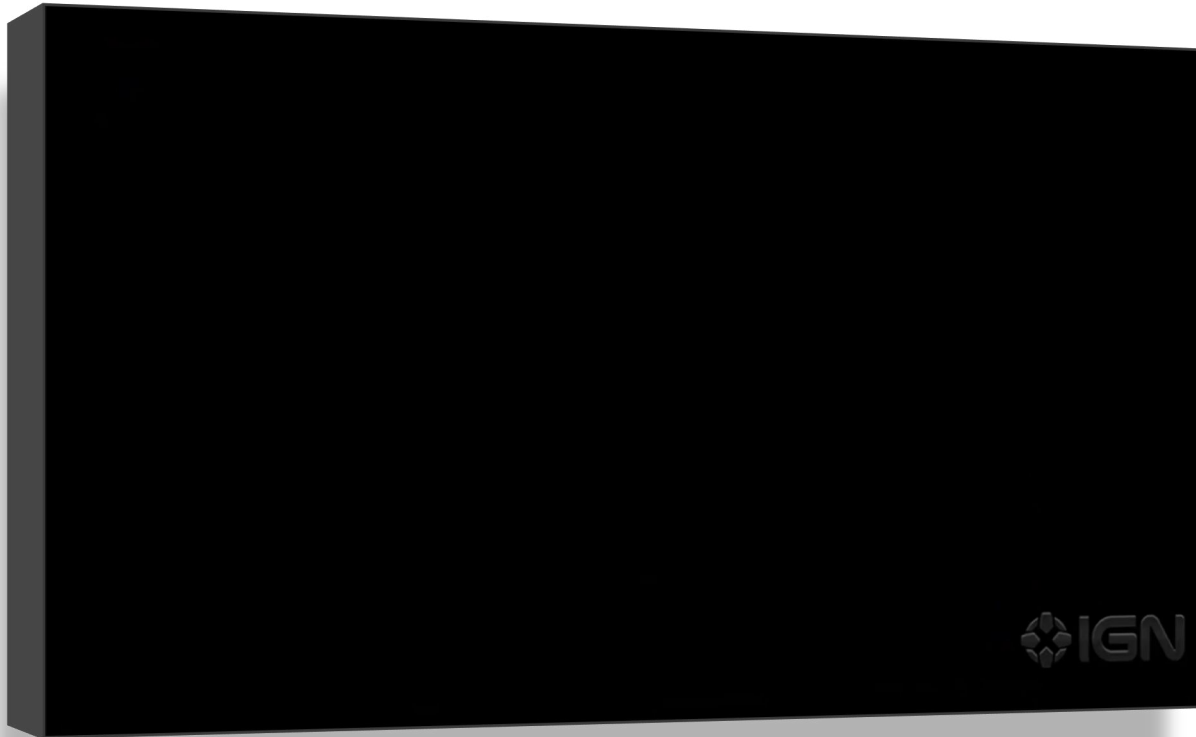
- Player
- Speaker
- Public

Working dynamics :

Experiment ↔ remedy ↔ reinvest



EXAMPLES OF PRACTICES



The Legend of Zelda : Breath of the Wild (Nintendo, 2017)

Teaching purpose : discover some artistic movements and their characteristics.

Research question to students :

« While exploring the play area, explain how the game developers built the Temple of Time. »

Sources of work :

- Game documentation (teacher)
- Iconographic documents
- My experience of the game

Working dynamics :

Explore ⇔ observe ⇔ compare ⇔ define

Limit : frustration and disparition of the play.



EDUCATION ABOUT \neq WITH THE MEDIA



The education with the media is "a **pedagogy of support**, where media productions **serve** the teaching of school subjects." (Piette, 2007)

Detour by the game

"In the case of the education about the media, the perspective is quite different: it is the media that become the **subject of study themselves**. They are approached as a **specific and autonomous field of knowledge** to which the teaching relates." (Piette, 2007)

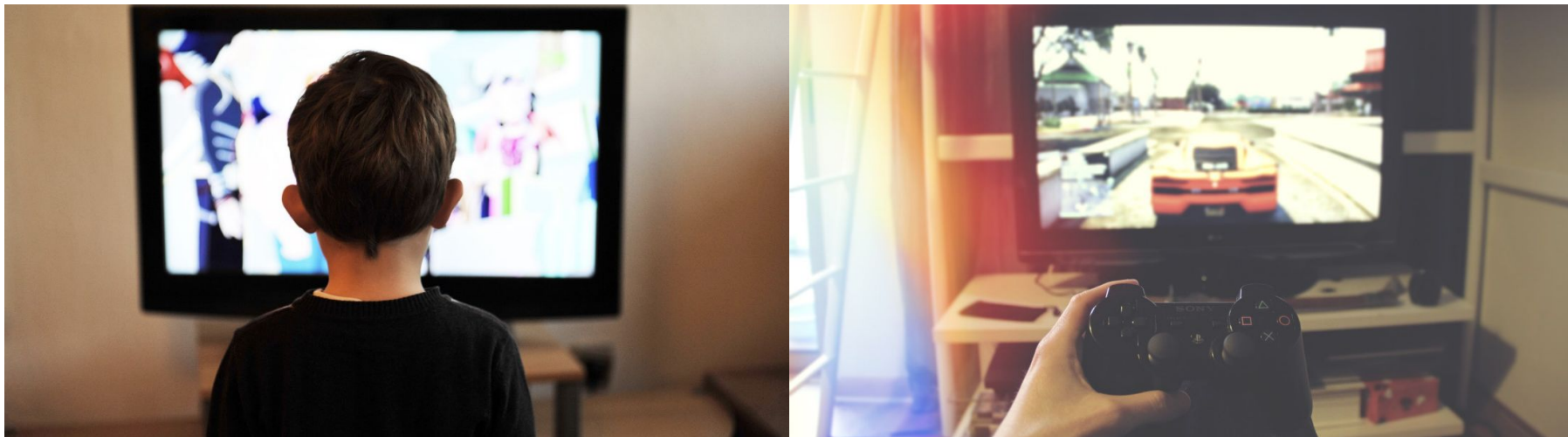
Focus on the game



EDUCATION ABOUT ≠ WITH THE MEDIA



"The Italian semiotician Umberto Eco (1979) once argued that if you wanted to use television to teach somebody, you first had to teach them how to use television. Eco's argument can equally be applied to newer media. As Eco implies, media should not be regarded merely as teaching aids or tools for learning. **Education *about* the media should be seen as an indispensable prerequisite for education *with* or *through* the media.** Likewise, if we want to use the internet or computer games or other digital media for teaching, we need to equip students to understand and to critique these media: we cannot regard them simply as neutral means of delivering information, and we should not use them in a merely functional or instrumental way." (Buckingham, 2007, 111-112)



RESEARCH OBJECT



Charlotte	Gaël
The teaching practices including games in the ordinary education	
A variety of games	Focus on video games
The primary school teachers (6-12yo)	The highschool teachers (13-18yo)
The territory of the Wallonia-Brussels Federation	
Analysis of practices	Construction of tools

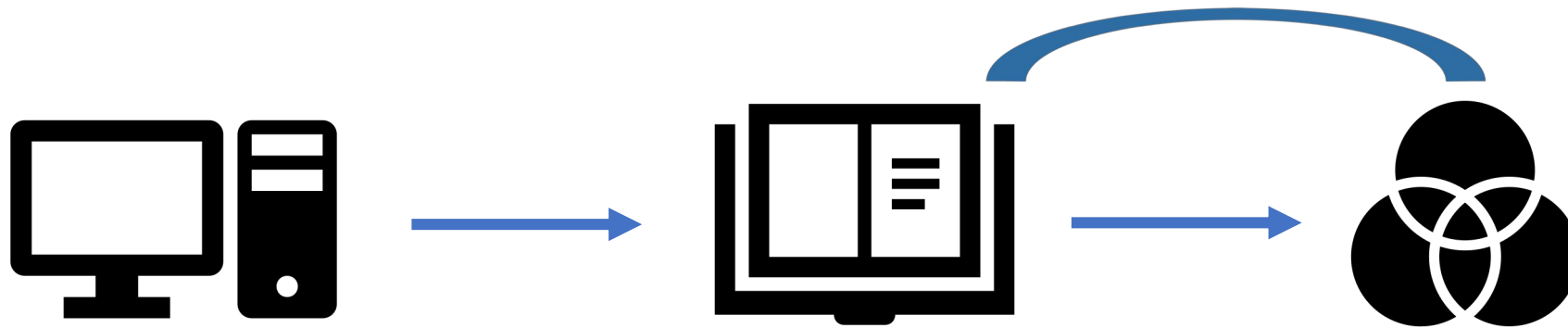


EDUCATION « WITH » VIDEO GAMES (GAËL)



Transformation of the play

Deconstruct the play experience to turn it into a pedagogical experience



Use the game as a tool

Match the game content to educational objectives



OBSERVATION : PROCEDURAL ILLITERACY



Teenagers play video games but they don't have the tools to "read" video games in depth (Mateas, 2005). However, much of the meaning of a video game - including its gameplay, rhetoric and ideologies - is crystallized in its **rules**.

These rules are **markers** that enunciate many messages (philosophical, political...), **remediate** (Erll, 2011) a myriad of knowledges and cultural references, and even traces of the creators' life.



« RULES »



Goal rules



Manipulation rules



Rules
(Frasca, 2003)



Meta rules



World rules
(Djaouti et al., 2018)

Ludems

(Koster, 2014)



*Education about video games (X education with video game) : it is no longer a question of considering the incorporation of game content as an expected effect of playing the game, but of **understanding** how a video game, as a cultural media object not designed for learning, **communicates** this information.*



OBJECTIVES OF A « VIDEO GAME LITERACY »



Our goal is to help players **interpret** the meanings of a video game without determining them in advance. This, even if they are affected by "conditions which are prepared by the game with its logical disposition processes and materialities, and by the extratextual waiting horizon, i.e. the imaginaries, expectations, hopes and habits of the player" (Saemmer & Tréhondart, 2014 : 109).



Help (non-)gamers to build their understanding of video games as cultural works.



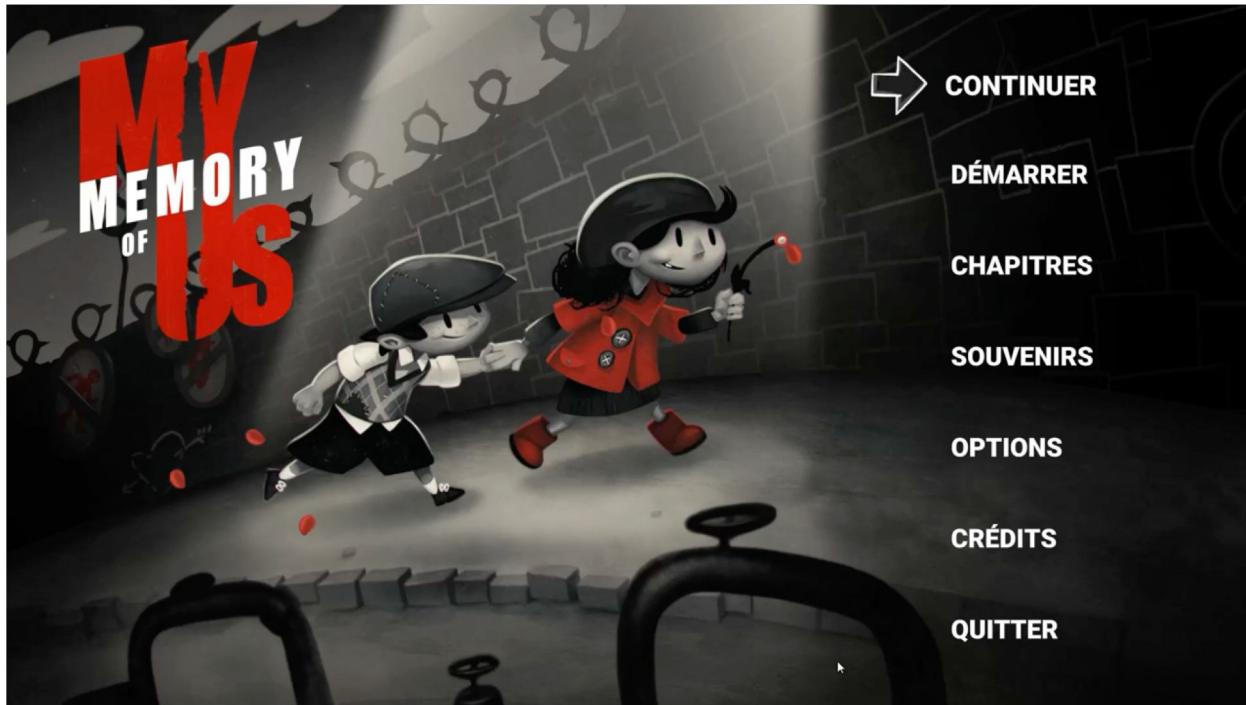
Encourage the appropriation of cultural heritage through video games



Facilitate access to game knowledge



EXAMPLE OF PRACTICES



Teaching purpose :

Decode the aesthetics of the game *My Memory of Us*; support the appropriation of cultural elements related to the Second World War through playing; understand how the game refers to these cultural elements without explicitly citing them.

Political constraint :

Combine video game education and education through video game.



EXAMPLE OF PRACTICES



Fiche d'OBSERVATION

complétée par _____

Goal Rules	Manipulation Rules	World Rules
= buts à atteindre, objectifs du jeu, de l'énigme...	= actions que le joueur peut réaliser (toujours commencer par un verbe d'action ; ex : POUSSER un bloc)	= événements qui se produisent sans l'intervention du joueur, décors, caractéristiques des personnages, sons...



Le décl...
l'ar...
Polog...
tre...
mondiale...
fut cr...
détruit e...
de ses...
rassemb...



En été 1942 commence le « repeuplement vers l'est », qui est en fait la déportation vers le camp de Treblinka, situé à 80 kilomètres au nord-est de Varsovie. Lancée dans le cadre de l'Aktion Reinhard, elle débute le 22 juillet. Pendant huit semaines, entre 6 000 et 8 000 personnes sont déportées tous les jours. Les rafles se font de jour comme de nuit, aussi bien dans les habitations que dans les usines, où il est plus facile d'arrêter les Juifs. Ceux-ci sont ensuite conduits vers la Umschlagplatz, la gare de triage de Varsovie. Cette première vague de déportations vers les camps de la mort ramène la population du ghetto à 70 000 habitants.



RESEARCH METHOD (CHARLOTTE)



Obj. 1

Documenting the existing practices

Exploratory approach

Semi-directed individual interviews

Qualitative treatment

Macro level

Online survey

Quantitative treatment

Selecting a sample of cases

Pre-selection of teachers

Semi-directed individual interviews with these teachers

Final selection of teachers (i.e. my cases)

Obj. 2

Following these cases

Micro level

Different types of observations + interviews

Qualitative treatment

Meso level

Semi-directed individual interviews

Qualitative treatment

Primary school teachers

Pupils

Contextual actors



RESEARCH METHOD (CHARLOTTE)



1/ Documenting the existing practices

*A typology to achieve
the first objective*

a) Qualitative data

- 13 **semi-directed exploratory interviews** with voluntary primary school teachers
 - A first approach of the field realities
 - A first overview of the diversity of practices in the Wallonia-Brussels Federation

b) Quantitative data

- Around a hundred voluntary respondents to an **online survey using a questionnaire**
 - A cluster analysis
 - A typology of teaching practices including games in the Wallonia-Brussels Federation



RESEARCH METHOD (CHARLOTTE)



2/ Selecting a sample of cases

a) Pre-selecting a sample of primary school teachers

- Among the voluntary respondents
- Based on the typology of teaching practices including games

b) Conducting a semi-directed interview with each of the pre-selected teachers

- Representativeness in comparison with established clusters
- Availability and motivation to be followed

c) Selecting definitely about ten representative teachers of the established clusters

*Elaborating a
transition phase*



RESEARCH METHOD (CHARLOTTE)



3/ Following these cases

a) Different types of observations in the classroom

- Systematic observations (i.e. note-taking using an observation grid)
- Electronic observations (to review the videos and refine my notes)

b) Different types of interviews with teachers and pupils

- Semi-directed interviews with teachers
- Self-confrontation interviews with teachers (i.e. asking them to describe their actions by reviewing video extracts)
- Focus groups with pupils

c) Interviews with contextual actors

- Semi-directed interviews with some educational, institutional or associative actors

*Different viewpoints to
achieve the second
objective*



EXPECTED FINDINGS (CHARLOTTE)



From a research perspective

- Documenting **teaching practices including games** in the Wallonia-Brussels Federation
- Contributing to the emergence of a **(video)game literacy in the educational context**

From a sociopolitical perspective

- Interesting results for **Belgian educational, institutional and associative actors**



PERSPECTIVES (GAËL)



Develop the "relationship to" rather than the "effect of" (no magic effect of the video game at school).



Organize **cultural mediation workshops** in secondary schools.

Develop the **social dimension** of video game literacy.



Construct reading keys and not a manual for universal reading (→focus on **accessibility**).

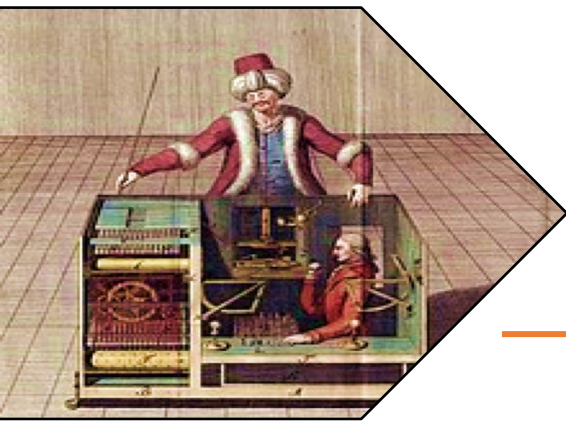


THANK YOU!

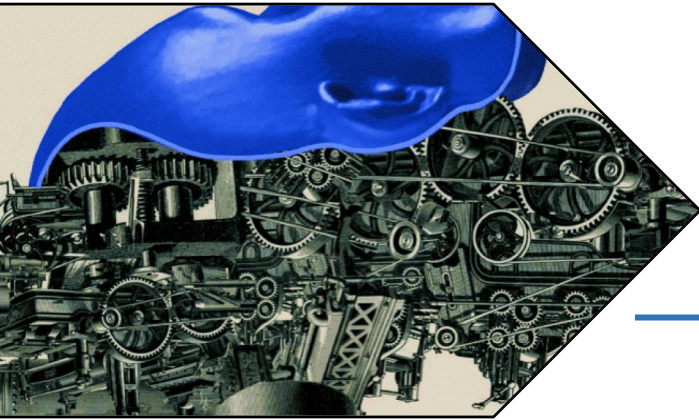


Algorithmic Literacy

by Arnaud Claes (PhD candidate)



Behind artificial intelligence

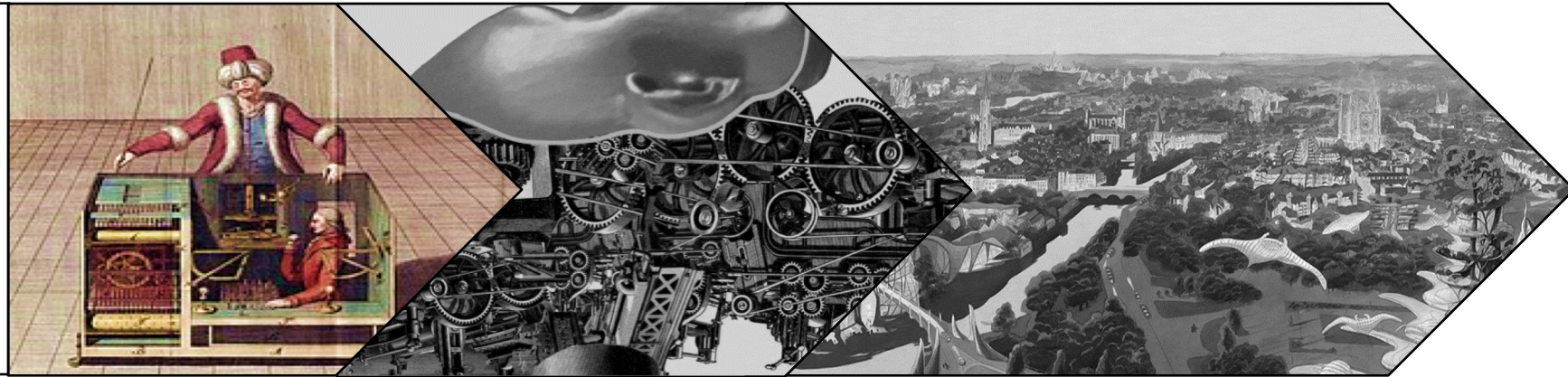


Explaining algorithmic « complexity »



Beyond the black box metaphor

Behind artificial intelligence

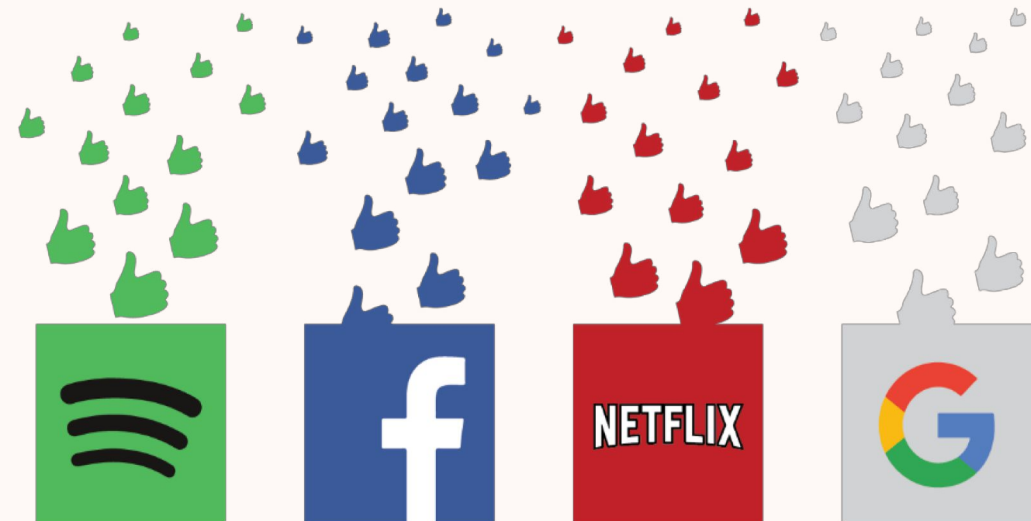


Studying **behind-the-scenes** of « artificial intelligence »

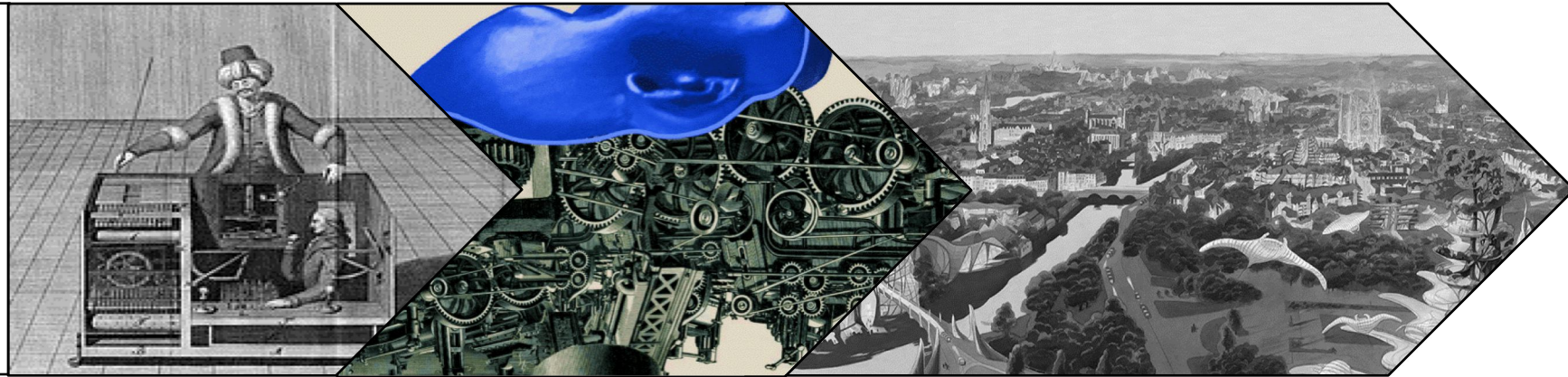
Recommender systems and « filter bubble effect » (Pariser, 2012)

What is a (good) recommendation?

Over-personalization of the public sphere



Explaining algorithmic « complexity »



Complexity not as computational cost but as theorized by Edgar Morin (from latin *complexus*, **what is woven together**) (Morin, 1995)

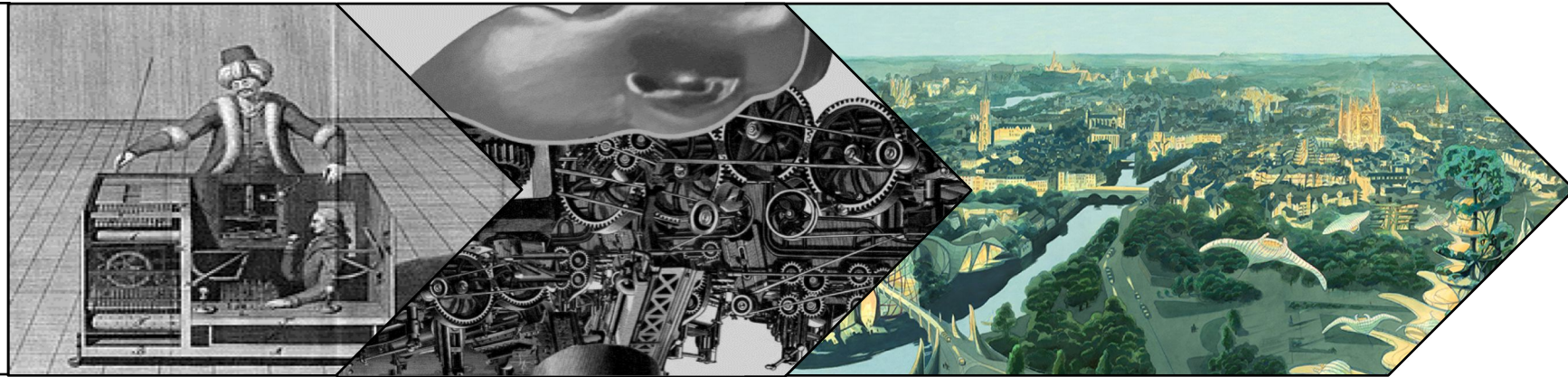
Explaining this complexity means:

- **Identifying core actors** of the system (both human and non-human according to the actor-network theory) (Latour, 1996)
- **Understanding mutual influences** of social behaviors and technological biases

By **going back and forth between the developers and the users**, between goals of the system and its interpretation by the users

Digital literacy, « computational thinking » (Papert, 1996) ?

Beyond the black box metaphor



Black box metaphor (Pasquale, 2015)

- Effective to highlight the opacity of an algorithm
- But also effective in skewing the debate



« Algorithmic systems are not standalone little boxes, but massive, networked ones with hundreds of hands reaching into them, tweaking and tuning, swapping out parts and experimenting with new arrangements » (Seaver, 2013)

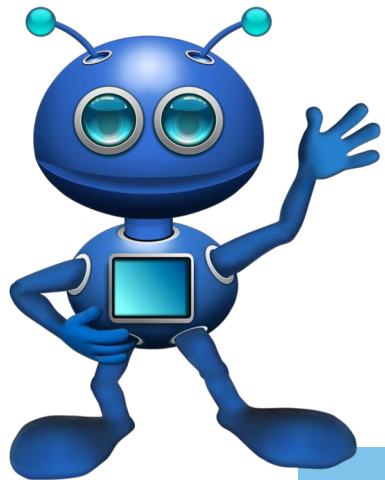
Designing a digital ecosystem allowing self-consciousness of the user and his influence on the system, meaningful feedbacks and long-term sustainability.

Prototyping a better communication channel between the users and the learning algorithms

An architectural rendering of a city square at dusk. On the left is a grand, classical-style building with a pediment and columns. The central area is a large, open plaza with many people sitting on the ground or walking. A curved path with trees and streetlights leads from the foreground towards the background. The sky is a deep blue, and the buildings and plaza are illuminated by warm, golden light.

Thank you

05.24.2019 - Symposium



Towards Gaming and Digital Literacy Critical Understanding

Thibault Philippette (supervisor), Gaël Gilson, Charlotte Prémat and Arnaud Claes

 thibault.philippette@uclouvain.be

 gael.gilson@uclouvain.be

 charlotte.preat@uclouvain.be

 arnaud.claes@uclouvain.be



UCLouvain