

# **Present and Future Paradigms of Cyberculture in the 21st Century**



**Simber Atay, Gülsün Kurubacak-Meriç,  
and Serap Sisman-Uğur**

# Present and Future Paradigms of Cyberculture in the 21st Century

Simber Atay  
*Dokuz Eylül University, Turkey*

Gülsün Kurubacak-Meriç  
*Anadolu University, Turkey*

Serap Sisman-Uğur  
*Anadolu University, Turkey*

A volume in the Advances in Human  
and Social Aspects of Technology  
(AHSAT) Book Series



Published in the United States of America by

IGI Global

Information Science Reference (an imprint of IGI Global)

701 E. Chocolate Avenue

Hershey PA, USA 17033

Tel: 717-533-8845

Fax: 717-533-8661

E-mail: [cust@igi-global.com](mailto:cust@igi-global.com)

Web site: <http://www.igi-global.com>

Copyright © 2021 by IGI Global. All rights reserved. No part of this publication may be reproduced, stored or distributed in any form or by any means, electronic or mechanical, including photocopying, without written permission from the publisher.

Product or company names used in this set are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI Global of the trademark or registered trademark.

#### Library of Congress Cataloging-in-Publication Data

Names: Atay, Simber, 1958- editor. | Kurubacak, Gulsun, 1964- editor. |

Sisman-Ugur, Serap, 1981- editor.

Title: Present and future paradigms of cyberculture in the 21st century /

Simber Atay, Gülsün Kurubacak-Meriç, and Serap Sisman-Uğur, editors.

Description: Hershey, PA : Information Science Reference, [2019] | Includes bibliographical references. | Summary: "This book examines the philosophical, political, social, psychological, aesthetic, communicative, computational, and algorithmic multiplicities aspects of cyberculture"-- Provided by publisher.

Identifiers: LCCN 2018042434 | ISBN 9781522580249 (h/c) | ISBN 9781799827009 (s/c) | ISBN 9781522580256 (eISBN)

Subjects: LCSH: Information technology--Social aspects. | Internet--Social aspects. | Digital media--Social aspects.

Classification: LCC HM851 .P7299 2019 | DDC 302.23/1--dc23

LC record available at <https://lccn.loc.gov/2018042434>

This book is published in the IGI Global book series Advances in Human and Social Aspects of Technology (AHSAT) (ISSN: 2328-1316; eISSN: 2328-1324)

#### British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this book is new, previously-unpublished material.

The views expressed in this book are those of the authors, but not necessarily of the publisher.

For electronic access to this publication, please contact: [eresources@igi-global.com](mailto:eresources@igi-global.com).



# Advances in Human and Social Aspects of Technology (AHSAT) Book Series

ISSN:2328-1316  
EISSN:2328-1324

Editor-in-Chief: Mehdi Khosrow-Pour, D.B.A. Information Resources Management Association, USA

## MISSION

In recent years, the societal impact of technology has been noted as we become increasingly more connected and are presented with more digital tools and devices. With the popularity of digital devices such as cell phones and tablets, it is crucial to consider the implications of our digital dependence and the presence of technology in our everyday lives.

The **Advances in Human and Social Aspects of Technology (AHSAT) Book Series** seeks to explore the ways in which society and human beings have been affected by technology and how the technological revolution has changed the way we conduct our lives as well as our behavior. The AHSAT book series aims to publish the most cutting-edge research on human behavior and interaction with technology and the ways in which the digital age is changing society.

## COVERAGE

- ICTs and human empowerment
- Human-Computer Interaction
- Information ethics
- End-User Computing
- Gender and Technology
- Digital Identity
- Public Access to ICTs
- Human Development and Technology
- Cultural Influence of ICTs
- ICTs and social change

IGI Global is currently accepting manuscripts for publication within this series. To submit a proposal for a volume in this series, please contact our Acquisition Editors at [Acquisitions@igi-global.com](mailto:Acquisitions@igi-global.com) or visit: <http://www.igi-global.com/publish/>.

The Advances in Human and Social Aspects of Technology (AHSAT) Book Series (ISSN 2328-1316) is published by IGI Global, 701 E. Chocolate Avenue, Hershey, PA 17033-1240, USA, [www.igi-global.com](http://www.igi-global.com). This series is composed of titles available for purchase individually; each title is edited to be contextually exclusive from any other title within the series. For pricing and ordering information please visit <http://www.igi-global.com/book-series/advances-human-social-aspects-technology/37145>. Postmaster: Send all address changes to above address. Copyright © 2021 IGI Global. All rights, including translation in other languages reserved by the publisher. No part of this series may be reproduced or used in any form or by any means – graphics, electronic, or mechanical, including photocopying, recording, taping, or information and retrieval systems – without written permission from the publisher, except for non commercial, educational use, including classroom teaching purposes. The views expressed in this series are those of the authors, but not necessarily of IGI Global.

## Titles in this Series

*For a list of additional titles in this series, please visit:*

*<http://www.igi-global.com/book-series/advances-human-social-aspects-technology/37145>*

### ***Information Technology Trends for a Global and Interdisciplinary Research Community***

Francisco J. García-Peñalvo (University of Salamanca, Spain)

Information Science Reference • © 2021 • 374pp • H/C (ISBN: 9781799841562) • US \$195.00

### ***Latin American Women and Research Contributions to the IT Field***

Adriana Peña Pérez Negrón (Universidad de Guadalajara, Mexico) and Mirna Muñoz (CIMAT - Unidad Zacatecas, Mexico)

Engineering Science Reference • © 2021 • 459pp • H/C (ISBN: 9781799875529) • US \$195.00

### ***Examining the Socio-Technical Impact of Smart Cities***

Fenio Annansingh (City University of New York – York College, USA)

Information Science Reference • © 2021 • 300pp • H/C (ISBN: 9781799853268) • US \$190.00

### ***Machine Law, Ethics, and Morality in the Age of Artificial Intelligence***

Steven John Thompson (University of California, Davis, USA & University of Maryland Global Campus, USA)

Engineering Science Reference • © 2021 • 266pp • H/C (ISBN: 9781799848943) • US \$295.00

### ***Responsible AI and Ethical Issues for Businesses and Governments***

Bistra Vassileva (University of Economics, Varna, Bulgaria) and Moti Zwilling (Ariel University, Israel)

Engineering Science Reference • © 2021 • 259pp • H/C (ISBN: 9781799842859) • US \$225.00

*For an entire list of titles in this series, please visit:*

*<http://www.igi-global.com/book-series/advances-human-social-aspects-technology/37145>*



701 East Chocolate Avenue, Hershey, PA 17033, USA

Tel: 717-533-8845 x100 • Fax: 717-533-8661

E-Mail: [cust@igi-global.com](mailto:cust@igi-global.com) • [www.igi-global.com](http://www.igi-global.com)

## Editorial Advisory Board

Valentina Emilia Balas, *Aurel Vlaicu University, Romania*  
Tian Belavati, *Terbuka University, Azerbaijan*  
Alan Bruce, *Universal Learning Systems, Ireland*  
A.S.N. Chakravarthy, *HOD-CSE, JNTUK UCEV, India*  
Teresa L. Coffman, *University of Mary Washington, USA*  
Figen Kılıç, *Mersin University, Turkey*  
Mary Beth Klinger, *College of Southern Maryland, USA*  
Santosh Panda, *Indira Gandhi National Open University, India*  
Abha Sharma, *GD Goenka University, India*  
Ramesh Sharma, *Indira Gandhi National Open University, India*

## List of Reviewers

Aras Bozkurt, *Anadolu University, Turkey*  
Emre Dinçer, *Adnan Menderes University, Turkey*  
Başak Kalkan, *Anadolu University, Turkey*  
Buket Kip Kayabaş, *Anadolu University, Turkey*  
Badrul Khan, *KDW, USA*  
Hakan Kılınç, *Anadolu University, Turkey*  
Gökhan Kuş, *Anadolu University, Turkey*  
Mayte Martin, *Universal Learning Systems, Ireland*  
Harun Serpil, *Anadolu University, Turkey*  
Soner Sözlür, *Bülent Ecevit University, Turkey*  
Thomas Stanley, *Nevada Learning Academy, USA*  
Rabia Taş, *Anadolu University, Turkey*  
John Traxler, *University of Wolverhampton, UK*  
Hasan Uçar, *Anadolu University, Turkey*

# Table of Contents

|   |     |
|---|-----|
| <b>Preface</b> .....  | xiv |
| <b>Acknowledgment</b> .....   | xx  |
| <b>Chapter 1</b>  |     |
| Cyber-Culture, Cyber-Art, and Mnemonic Energy.....  | 1   |
| <i>Simber Atay, Dokuz Eylül University, Turkey</i>  |     |
| <b>Chapter 2</b>  |     |
| The Reflections of Technological Singularity on Open and Distance Learning Management.....                    | 18  |
| <i>Serap Sisman-Uğur, Anadolu University, Turkey</i>  |     |
| <i>Gülsün Kurubacak, Anadolu University, Turkey</i>   |     |
| <b>Chapter 3</b>  |     |
| Nature and Culture in Digital Media Landscapes.....   | 35  |
| <i>Tiago Cruz, University Institute of Maia, Portugal</i>   |     |
| <i>Fernando Paulino, University Institute of Maia, Portugal</i>   |     |
| <i>Mirian Tavares, FCHS, University of Algarve, Portugal</i>  |     |
| <b>Chapter 4</b>  |     |
| Websites as Spaces for Building the Identities of Political Parties.....                                      | 55  |
| <i>Adriane Figueirola Buarque de Holanda, School of Higher Education in Advertising and Marketing, Brazil</i> |     |
| <i>Cynthia H. W. Corrêa, University of São Paulo, Brazil</i>  |     |
| <b>Chapter 5</b>  |     |
| Designing Eco Cities With the Understanding of Digital Nomads .....   | 79  |
| <i>Havva Alkan Bala, Konya Technical University, Turkey</i>   |     |

## **Chapter 6**

Reflections in a “Black Mirror”: Reputation and Memory Conservation in a Too Technological Era .....96

*Sebastiano Nucera, University of Messina, Italy*

*Francesco Paolo Campione, University of Messina, Italy*

## **Chapter 7**

Using Digital Technologies in the 21st Century Classroom: How Video Games Support Dynamic Learning Opportunities .....109

*Carol-Ann Lane, Western University, Canada*

## **Chapter 8**

Social Impacts of Cyber Culture and Predictions About the Future of Open and Distance Education.....135

*Buket Kip Kayabaş, Anadolu University, Turkey*

## **Chapter 9**

The Dialectics of Cyber-Aesthetics and Graphic Design in the 21st Century ...154

*Selma Kozak, Dokuz Eylül University, Turkey*

## **Chapter 10**

The Relationship of Human Intelligence With Technique/Technology: From Intelligence Designing Tools to Learning Machines of Cybernetic Culture .....174

*Ali Gurbuz, Ankara Hacı Bayram Veli University, Turkey*

*Ozge Nilay Erbalaban Gürbüz, Cukurova University, Turkey*

## **Chapter 11**

Measuring Student Satisfaction Level Regarding Instructional Design and Technical Dimension in Web-Based Distance Education Programs .....202

*Serhat Koca, Anadolu University, Turkey*

*Birol Gulnar, Selcuk University, Turkey*

*Murat Aytas, Selcuk University, Turkey*

**Compilation of References ..... 220**

**About the Contributors ..... 240**

**Index..... 245**



# Detailed Table of Contents

**Preface**..... xiv

**Acknowledgment** ..... xx

**Chapter 1**

Cyber-Culture, Cyber-Art, and Mnemonic Energy..... 1  
*Simber Atay, Dokuz Eylöl University, Turkey*

The word cybernetics has a very rich etymology. On the other hand, Norbert Wiener’s Cybernetics and Society (1950) has very fluid style with its literary intertextual texture. Cyber prefix defines many aspects of life. Today, cyber-culture has gained new meanings due to virtual art activities during COVID-19 pandemic and lockdown. Cybernetics has shown its impact on artistic creativity with two exhibitions, Cybernetic Serendipity (1968, London) and Software (1970, New York), which featured early examples of digital-art, cyber-art, and new media performances. Cyber-art is a very broad category. There are countless cyber-artists. In the institutional context, Can’t Help Myself of Sun Yuan and Peng Yu (2016), Memory of Topography of teamLab (2018), and The City As A House of Rebecca Merlic (2020) are three valuable works. This subject was developed under the light of the ideas of Benjamin, Wiener, Deleuze, and Guattari, and the specified examples were analyzed with the descriptive method.

**Chapter 2**

The Reflections of Technological Singularity on Open and Distance Learning Management..... 18  
*Serap Sisman-Uğur, Anadolu University, Turkey*  
*Gölsün Kurubacak, Anadolu University, Turkey*

According to Kurzweil, technological singularity is the inevitable change of human civilization by all developments in technology, especially artificial intelligence. Open and distance learning systems are the systems that allow individuals to access learning materials and get education whenever and wherever they want. These systems

are widely used today in programs offered by universities such as associate degree, undergraduate and graduate programs, as well as certificate programs and massive open online courses. This study discusses the technological singularity within the context of super-human and Human 2.0 concepts regarding the definition of “new human” that this phenomenon will shape, its reflections on education, and especially open and distance learning, namely open universities, and how these systems will transform. Its effects on managerial activities and managed processes in management were investigated, and suggestions have been made for restructuring management in accordance with this change and singularity in technology.

**Chapter 3**

Nature and Culture in Digital Media Landscapes.....35

*Tiago Cruz, University Institute of Maia, Portugal*

*Fernando Paulino, University Institute of Maia, Portugal*

*Mirian Tavares, FCHS, University of Algarve, Portugal*

The landscape genre in art is something that has not been explored until today, despite being a dominant genre until the 20th century. During the industrial revolution, in the context of cinema, photography, and other media, this genre continues its strong presence. However, it is not so clear what happens with the advent of digital media. In this context, the authors contextualize landscape, having visual culture and social semiotics as their point of view, and present a set of digital media-art artefacts that are taken as references to the way the topic has been approached and explored and where digital media assume themselves as tools and products in the construction and presentation of the artistic work. The objective will be to expose how the concept of landscape evolves, and it is presented in the scope of digital media-art.

**Chapter 4**

Websites as Spaces for Building the Identities of Political Parties.....55

*Adriane Figueirola Buarque de Holanda, School of Higher Education in Advertising and Marketing, Brazil*

*Cynthia H. W. Corrêa, University of São Paulo, Brazil*

Initially, studies on policy and the internet considered websites as spaces for the propagation of political and electoral marketing. However, this proposal presents a different perspective regarding the internet as a space for building the identity of political parties with their diverse audiences: cross-party and intra-party. The chapter is divided into three parts: the first deals with politics and the internet focusing on the theory of equalization and normalization to match the political game between major and minor parties. Thus, to understand the organizational structure of the parties, the theory of the parties of cadres and masses is offered. Also, to deepen this discussion, the selective and collective incentives that are part of the genetics of political parties are treated. As the results, the website serves as an instrument of

communication of the party, divulging the objectives, the internal disputes between the different factions, and the way the party works.

**Chapter 5**

Designing Eco Cities With the Understanding of Digital Nomads .....79  
*Havva Alkan Bala, Konya Technical University, Turkey*

A computer and a fast internet connection allow us the opportunity to work from just about anywhere, creating cyber-culture. What we need for that is just be good at what we do and be able to sell our services or products online so we can go and live wherever we want. A person who chooses to embrace remote work as a lifestyle choice, using technology to make a living that enables themselves to be as mobile as they want to be called “digital nomad.” Digital nomads have the business and education opportunity much more independent and collaborative. This study is about the designing eco-cities with the concept of digital nomads and their understanding of life. For nomadic lifestyle “change is home.” In modern period, it is vital to understand the philosophy behind the nomadic lifestyle which focuses on experiences instead of accumulating. A digital nomad has ecological approach that means not to be consumer more than necessary. This study claims that understanding of digital nomads give clues to digital age and its cities.

**Chapter 6**

Reflections in a “Black Mirror”: Reputation and Memory Conservation in a Too Technological Era .....96  
*Sebastiano Nucera, University of Messina, Italy*  
*Francesco Paolo Campione, University of Messina, Italy*

The focus of this work is to analyse two episodes of the lucky TV series Black Mirror in an attempt to examine the descriptive trajectory of an increasingly technology-driven society. It has to be noted that the two chosen episodes describe a society seemingly working as a technological grammar which breaks down and rebuilds ubiquitous experiences and life stories more and more beyond the limit. This is not a criminalization of technology but, rather, a condemnation of lifestyles which lose their identity and become aspatial. Thus, conserving memories of the past or creating reputation become hybridized and twisted behavioural realities, which concur to structure a strongly ‘oligotrophic’ nature: that of the post-human versions, that of technological mediations and organic dominions which meet the inorganic and meld with it. The authors analyse these aspects through a diachronic perspective that minimizes dialectic polarizations in order to examine the exegeses of the post-human concept within a medial representation that intensifies the discriminating and causative factors.

## **Chapter 7**

|  |     |
|--|-----|
| Using Digital Technologies in the 21st Century Classroom: How Video Games Support Dynamic Learning Opportunities ..... | 109 |
| <i>Carol-Ann Lane, Western University, Canada</i>  |     |

Scholars have acknowledged the potential contribution of video gaming to complex forms of learning, identifying links between gaming and engagement, experiential learning spaces, problem-solving, strategies, transliteracy reflectivity, critical literacy, and metacognitive thinking. Using a multiliteracies lens, this multi-case study examined the experiences of four boys engaged with video gaming in two different contexts: a community centre and an after-school video club. In this chapter, the author describes how these four boys developed their multimodal ways of learning by engaging with visual perspectives of video games.

## **Chapter 8**

|  |     |
|--|-----|
| Social Impacts of Cyber Culture and Predictions About the Future of Open and Distance Education..... | 135 |
| <i>Buket Kip Kayabaş, Anadolu University, Turkey</i>   |     |

Developments in information and communication technologies play a major role in shaping economic, political, and cultural fields. Together with its inherent features, the internet, in addition to offering opportunities such as a new cultural space, freedom, and reality, has led the change of learning habits, cultural forms, and identities. Open and distance learning starting from correspondence education to computer networks-based education is one of the most affected areas by internet technologies. Various applications have developed in the field of open and distance education over time with the reflections of cyber culture. The aim of this study is to define cyber culture with its components and examine which areas it affects in our daily lives then to investigate the future open and distance education applications shaped by cyber culture.

## **Chapter 9**

|   |     |
|---|-----|
| The Dialectics of Cyber-Aesthetics and Graphic Design in the 21st Century ... | 154 |
| <i>Selma Kozak, Dokuz Eylül University, Turkey</i>                            |     |

We live in a digital culture and cyber era. Cyberculture is an extensive concept including information and communication technologies, media and new media, theories, ideas, literature, art, design, and cultural studies. On the other hand, Lev Manovich updates new media and it reflects the characteristics of new avant-garde because of new digital hardware and software technology. New media has a new aesthetic potential, so does cyberculture. The rise of cyber culture has made it necessary to underline the relationship between graphic design and cyber culture and made it necessary to show key design elements of cyber-aesthetics. In this

context, by using descriptive method, the chapter focuses on some components of aesthetics and cyber-aesthetics in the frame of relationship between graphic design and cyber-culture. Now, there is a global pandemic (COVID-19). Some graphic design examples came out during this global pandemic. These examples will be evaluated in terms of cyber-graphic design, cyber-aesthetics, and cyber-culture.

## **Chapter 10**

The Relationship of Human Intelligence With Technique/Technology: From Intelligence Designing Tools to Learning Machines of Cybernetic Culture .....174

*Ali Gurbuz, Ankara Hacı Bayram Veli University, Turkey*

*Ozge Nilay Erbalaban Gürbüz, Cukurova University, Turkey*

The history of creating technical/technological tools continues, from the days when man designed the first tools to the days when artificial intelligence was designed. In this adventure, which ranges from the production of the first tools to the development of the method of burning fire, from communication tools to the idea of society as a technical abstraction, from war tools to clocks, machines, automatons, and artificial intelligence, will be analyzed the functions of intelligence philosophically and historically. Today's cybernetic societies, where artificial intelligence is developed, are a natural consequence of the technical/technological evolution of human intelligence. In this transition period, where the creation of artificial intelligence and the anthropological future of the human species are discussed together, the perspectives of philosophical culture that are stuck between artificial and natural dilemmas will be explored. Through analysis of Steven Spielberg's Artificial Intelligence film, the meaning of cyber future perception in culture will be revealed.

## **Chapter 11**

Measuring Student Satisfaction Level Regarding Instructional Design and Technical Dimension in Web-Based Distance Education Programs .....202

*Serhat Koca, Anadolu University, Turkey*

*Birol Gulnar, Selcuk University, Turkey*

*Murat Aytas, Selcuk University, Turkey*

Web-based distance education method (WBDE) is used by many private and public education institutions today. Through this educational application, instructors can deliver training content to students or participants from all over the world, synchronously and asynchronously. Within the scope of WBDE applications, trainings are carried out through websites with many different structures and interfaces. In this direction, in the process of conveying the said training method to the recipients, the way the education is provided in terms of instructional design and technical dimension becomes very important for the satisfaction of the recipients. In this context, the measurement of student satisfaction level regarding instructional design and technical dimension in web-based distance education programs has been studied

on the example of Spiritual Guidance program. In this direction, it is thought that the study of distance education programs in terms of instructional design and technical dimension will contribute to the researches to be put forward in this direction.

**Compilation of References ..... 220**

**About the Contributors ..... 240**

**Index..... 245**

# Preface

Cyberculture is a particularly complex issue. Popular culture products, science-fiction literature, media products, digital media products, digital design products, movies, video games, visual art works, contemporary art works, social media imagery, social media use models are interfaces where cyberculture and human existence produce each other within becoming dynamics. So, in our post-truth societies in any global or glocal context, cyberculture has great significance.

This book, consisting of 11 chapters, is divided into Art, Learning and Politics in the following list.

## **CHAPTER 1: CYBER-CULTURE, CYBER-ART, AND MNEMONIC ENERGY**

The word cybernetics has a very rich etymology. On the other hand, Norbert Wiener's *Cybernetics and Society* (1950), has very fluid style with its literary intertextual texture. Cyber prefix defines many aspects of life. Today, cyber-culture has gained new meanings due to virtual art activities during Covid-19 pandemic and lockdown. Cybernetics has shown its impact on artistic creativity with two exhibitions: *Cybernetic Serendipity* (1968, London) and *Software* (1970, New York) featured early examples of digital-art, cyber-art and new media performances. Cyber-art is a very broad category. There are countless cyber-artists. In the institutional context, *Can't Help Myself* of Sun Yuan and Peng Yu (2016); *Memory of Topography* of teamLab (2018) and *The City As A House* of Rebecca Merlic (2020) are three valuable works. This subject was developed under the light of the ideas of Benjamin, Wiener, Deleuze & Guattari, and the specified examples were analyzed with the descriptive method.

## **CHAPTER 2: THE REFLECTIONS OF TECHNOLOGICAL SINGULARITY ON OPEN AND DISTANCE LEARNING MANAGEMENT**

According to Kurzweil, technological singularity is the inevitable change of human civilization by all developments in technology, especially artificial intelligence. Open and distance learning systems are the systems that allow individuals to access learning materials and get education whenever and wherever they want. These systems are widely used today in programs offered by universities such as associate degree, undergraduate and graduate programs, as well as certificate programs and massive open online courses. This study discusses the Technological Singularity within the context of Super-human and Human 2.0 concepts regarding the definition of “new human” that this phenomenon will shape, its reflections on education and especially open and distance learning, namely open universities, and how these systems will transform. Its effects on managerial activities and managed processes in management were investigated, and suggestions have been made for restructuring management in accordance with this change and singularity in technology.

## **CHAPTER 3: NATURE AND CULTURE IN DIGITAL MEDIA LANDSCAPES**

The Landscape genre in art is something that has been explored until today, despite being a dominant genre until the 20th century. During the industrial revolution, in the context of cinema, photography and other media, this genre continues its strong presence. However, it is not so clear what happens with the advent of digital media. In this context, the authors contextualize Landscape, having Visual Culture and Social Semiotics as their point of view, and present a set of digital media-art artefacts that are taken as references to the way the topic has been approached and explored and where digital media assume itself as a tool and product in the construction and presentation of the artistic work. The objective will be to expose how the concept of landscape evolves and it is presented in the scope of digital media-art.

## **CHAPTER 4: WEBSITES AS SPACES FOR BUILDING THE IDENTITY OF POLITICAL PARTIES**

Initially, studies on policy and the Internet considered websites as spaces for the propagation of political and electoral marketing. However, this proposal presents a different perspective regarding the Internet as a space for building the identity of



political parties with their diverse audiences: Cross-party and intra-party. The chapter is divided into three parts: the first deals with politics and the Internet focusing on the theory of equalization and normalization to match the political game between major and minor parties. Thus, to understand the organizational structure of the parties, the theory of the parties of cadres and masses is offered. Also, to deepen this discussion, the selective and collective incentives that are part of the genetics of political parties are treated. As the results, the website serves as an instrument of communication of the party, divulging the objectives, the internal disputes between the different factions, and the way the party works.

## **CHAPTER 5: DESIGNING ECO CITIES WITH THE UNDERSTANDING OF DIGITAL NOMADS**

A computer and a fast internet connection allows us the opportunity to work from just about anywhere creating cyber-culture. What we need for that is just be good at what we do and be able to sell your services or product online so we can go and live wherever we want. A person who chooses to embrace remote work as a lifestyle choice, using technology to make a living that enables themselves to be as mobile as they want to be called “digital nomad”. Digital nomads have the business and education opportunity much more independent and collaborative. This study is about the designing eco-cities with the concept of digital nomads and their understanding of life. For nomadic lifestyle “change is home”. In modern period it is vital to understand the philosophy behind the nomadic lifestyle which focuses on experiences instead of accumulating. A digital nomad has ecological approach that means not to be consumer more than necessary. This study claims that understanding of digital nomads give clues to digital age and its cities.

## **CHAPTER 6: REFLECTIONS IN A “BLACK MIRROR” – REPUTATION AND MEMORY CONSERVATION IN A TOO TECHNOLOGICAL ERA**

The focus of this work is to analyse two episodes of the lucky TV series Black Mirror, in an attempt to examine the descriptive trajectory of an increasingly technology-driven society. It has to be noted that the two chosen episodes describe a society seemingly working as a technological grammar which breaks down and rebuilds ubiquitous experiences and life stories more and more beyond the limit. This is not a criminalization of technology but, rather, a condemnation of lifestyles which lose their identity and become aspatial. Thus, conserving memories of the past or

## ***Preface***

creating reputation become hybridized and twisted behavioural realities, which concur to structure a strongly 'oligotrophic' nature: that of the post-human versions, that of technological mediations and organic dominions which meets the inorganic and melds with it. We will analyse these aspects through a diachronic perspective that minimizes dialectic polarizations, in order to examine the exegeses of the post-human concept within a medial representation that intensifies the discriminating and causative factors.

## **CHAPTER 7: USING DIGITAL TECHNOLOGIES IN THE 21ST CENTURY CLASSROOM – HOW VIDEO GAMES SUPPORT DYNAMIC LEARNING OPPORTUNITIES**

Scholars have acknowledged the potential contribution of video gaming to complex forms of learning, identifying links between gaming and engagement, experiential learning spaces, problem-solving, strategies, transliteracy reflectivity, critical literacy, and metacognitive thinking. Using a multiliteracies lens, this multi-case study examined the experiences of four boys engaged with video gaming in two different contexts: a community centre and an after-school video club. In this chapter I describe how these four boys developed their multimodal ways of learning by engaging with visual perspectives of video games.

## **CHAPTER 8: SOCIAL IMPACTS OF CYBER CULTURE AND PREDICTIONS ABOUT THE FUTURE OF OPEN AND DISTANCE EDUCATION**

Developments in information and communication technologies play a major role in shaping economic, political and cultural fields. Together with its inherent features the internet, in addition to offering opportunities such as a new cultural space, freedom and reality, has led the change of learning habits, cultural forms and identities. Open and distance learning starting from correspondence education to computer networks based education is one of the most affected areas by internet technologies. Various applications have developed in the field of open and distance education over time with the reflections of cyber culture. The aim of this study is to define cyber culture with its components and examine which areas it affects in our daily life; then to investigate the future open and distance education applications shaped by cyber culture.

## **CHAPTER 9: THE DIALECTICS OF CYBER-AESTHETICS AND GRAPHIC DESIGN IN 21ST CENTURY**

Nowadays, we live in digital culture and Cyber Era. Cyberculture is an extensive concept including information and communication technologies, media and new media, theories, ideas, literature, art, design and cultural studies. On the other hand, Lev Manovich updates new media and it reflects the characteristics of new avant-garde because of new digital hardware and software technology. New Media has a new aesthetic potential, so does cyberculture. The rise of cyber culture has made necessary to underline the relationship between graphic design and cyber culture and made necessary to show key design elements of cyber-aesthetics. In this context, by using descriptive method, It will be focused on some components of aesthetic and cyber-aesthetic in the frame of relationship between graphic design and cyber-culture. Now, there is a global pandemic (Covid-19) all around the world. Some graphic design examples came out during this global pandemic. These examples will be evaluated in terms of cyber-graphic design, cyber-aesthetic, cyber-culture.

## **CHAPTER 10: THE RELATIONSHIP OF HUMAN INTELLIGENCE WITH TECHNIQUE/TECHNOLOGY – FROM INTELLIGENCE DESIGNING TOOLS TO LEARNING MACHINES OF CYBERNETIC CULTURE**

The history of creating technical/technological tools continues, from the days when man designed the first tools to the days when artificial intelligence was designed. In this adventure, which ranges from the production of the first tools, to the development of the method of burning fire, from communication tools to the idea of society as a technical abstraction, from war tools to clocks, machines, automatons and artificial intelligence, will be analyzed the functions of intelligence philosophically and historically. Today's cybernetic societies, where artificial intelligence is developed, are a natural consequence of the technical / technological evolution of human intelligence. In this transition period, where the creation of artificial intelligence and the anthropological future of the human species are discussed together, the perspectives of philosophical culture that are stuck between artificial and natural dilemmas will be explored. Through analysis of Steven Spielberg's Artificial Intelligence film, the meaning of cyber future perception in culture will be revealed.

## **CHAPTER 11: MEASURING STUDENT SATISFACTION LEVEL REGARDING INSTRUCTIONAL DESIGN AND TECHNICAL DIMENSION IN WEB-BASED DISTANCE EDUCATION PROGRAMS**

Web-based distance education method (WBDE) is used by many private and public education institutions today. Through this educational application, instructors can deliver training content to students or participants from all over the world, synchronously and asynchronously. Within the scope of WBDE applications, trainings are carried out through websites with many different structures and interfaces. In this direction, in the process of conveying the said training method to the recipients, the way the education is provided in terms of instructional design and technical dimension becomes very important for the satisfaction of the recipients. In this context, the measurement of student satisfaction level regarding instructional design and technical dimension in web-based distance education programs has been studied on the example of Spiritual Guidance program. In this direction, it is thought that the study of distance education programs in terms of instructional design and technical dimension will contribute to the researches to be put forward in this direction.

This publication can be used for researchers, mentors, facilitators, and tutors as well as learners. As it covers the management, communication, pedagogy, technology/computing, evaluation, biology/genetics/psychology, and sociology/intelligent social networks-based future trends, issues and challenges of learning in the age of transhumanism, the chapters answer their questions in this context. This proposed book is a reference book, and also a welcome addition to academic libraries' collections in natural and life science as well as social science.

# Acknowledgment

We have many individuals to thank for their impressive on the book. First, we would like to praise the people at IGI Global. The book development team and other our editors, provided framework for the revision; they also suggested areas that could be strengthened and were invaluable in shaping the book.

They helped make critical decisions about the transformative structure of the book, and provided useful feedback on stylistic issues.

We would also to express our appreciations to the Editorial Advisory Board (EAB) members. The EAB Members helped on the book included Ramesh Sharma, Teresa L. Coffman, A.S.N. Chakravarthy, Valentina Emilia Balas, Abha Sharma, Alan Bruce, Santosh Panda, Mary Beth Klinger, Figen Kılıç. The excellent advice from these people helped shape the book. We would also thanks the following reviewers for their careful and thoughtful work:

Badrul Khan, Gökhan Kuş, Buket Kip Kayabaş, Thomas Stanley, Aras Bozkurt, Mayte Martin, Hasan Uçar, John Traxler, Harun Serpil, Rabia Taş, Soner Sözlür, Emre Dinçer, Hakan Kılınç Başak Kalkan.

We would particularly like to thank all of the authors of the individual chapters for their excellent contributions. Special mention in this regard must go to Tiago Cruz, Fernando Paulino, Mirian Tavares, Adriane Figueirola Buarque de Holanda, Cynthia H. W. Corrêa, Havva Alkan Bala, Robert Seddon, Taiana Catharino, Sebastiano Nucera, Francesco Paolo Campione, Carol-Ann Lane, Rabia Taş, Başak Kalkan, Buket Kip Kayabaş, Selma Kozak, Ali Gürbüz, Özge Nilay Erbalaban Gürbüz, Birol Gulnar, Murat Aytas, Serhat Koca.

# Chapter 1

## Cyber–Culture, Cyber–Art, and Mnemonic Energy

**Simber Atay**

*Dokuz Eylül University, Turkey*

### ABSTRACT

*The word cybernetics has a very rich etymology. On the other hand, Norbert Wiener's Cybernetics and Society (1950) has very fluid style with its literary intertextual texture. Cyber prefix defines many aspects of life. Today, cyber-culture has gained new meanings due to virtual art activities during COVID-19 pandemic and lockdown. Cybernetics has shown its impact on artistic creativity with two exhibitions, Cybernetic Serendipity (1968, London) and Software (1970, New York), which featured early examples of digital-art, cyber-art, and new media performances. Cyber-art is a very broad category. There are countless cyber-artists. In the institutional context, Can't Help Myself of Sun Yuan and Peng Yu (2016), Memory of Topography of teamLab (2018), and The City As A House of Rebecca Merlic (2020) are three valuable works. This subject was developed under the light of the ideas of Benjamin, Wiener, Deleuze, and Guattari, and the specified examples were analyzed with the descriptive method.*

*“The past is everything*

*The future is nothing;*

*Time has no other meaning”*

DOI: 10.4018/978-1-5225-8024-9.ch001

*(Cărtărescu, 2014:77).*

## ETYMOLOGY MATTERS

We can't do anything that we can't imagine, we can't describe anything that we can't think and we can't develop anything that we don't know. Because everything is a question of imagination, design and process and the truth of any phenomenon relatively exists in its origin.

Therefore, the etymological inquiry of the related concepts when working on any subject, illuminates the path of the research and allows its mapping.

Etymology is determined in this way in a Cambro-Briton magazine published in 1820 (Vol. 1, No.10): "Etymology...is the art of disengaging words from the adscititious incombrances, which time or custom may have produced, and of restoring them to that simplicity, which belonged to their original character" (n.a.1820, p.367). In the same article, the following determination of M. de Gebelin was also included:

"In the most ancient Oriental tongues, there exists a word, written in Hebrew תומ, which we write and pronounce indiscriminately Tom, Tum, Tym. It is a radical word signifying perfection in a proper or physical sense, and, in a figurative or moral one, accomplish-ment, truth, justice... The Greeks, again, uniting with this word the term λόγια, which implied with them discourse or knowlege, made of it the word Ετυμολογία, which we pronounce Etymology, and which, consequently, signifies a perfect science, and they designed thereby the knowledge of the origin and import of word" (pp.367-368).

The etymology of a word expresses the historical and cultural adventure of that word. Hence, etymology is an extremely vivid discipline: ...in etymology, certain mental qualities associated with creativeness, memory, vividness of association, and even visual impressionability play a part at least as crucial as that of straight indoctrination..., it is nonetheless true that important phases of etymological inquiry may and should be placed under rational control" (Malkiel, 1962, p.202).

On the other hand, scientific and technological inventions and related disciplines mean new paradigms and their respective cultural and artistic reflections and products. Naturally, the inventors, scientists, philosophers, artists, writers name these new fields of activity in new terms, in other words, they make neologism such as Joseph Nicéphore Niépce's Héliographie (1827), Sir John Herschel's Photograph (1839), The Cinématographie of Lumière Brothers (1895), Vannevar Bush's Memex(1945), Norbert Wiener's cybernetics (1948), William Gibson's Cyberspace (1984), Bard & Söderquist's Netocracy (2000), Luciano Floridi's inforg (1999) etc.

The inspiration source of neologism is usually Classical Culture, because the tradition of Classical Culture has the energy to define and name any present reality. This is also true for Cybernetics.

Undoubtedly, etymological research and explanation of the word cybernetics has been done many times; however, brief but brilliant correspondence text, which is written by Panos D.Bardis with its hypertext properties, is a text that should be mentioned. The Cybernetics phenomenon has been mapped under three headings: Definition, History and Etymology with its cultural, philosophical and linguistic extensions. According to this map: "Cybernetics is the study of communication and control in animals and machines, communication being the receiving and digesting of information, and control the use of this information in a direct action" and there are similarities between biological systems and computer systems and mathematical statistics are used to examine these similarities (Bardis,1965:226).

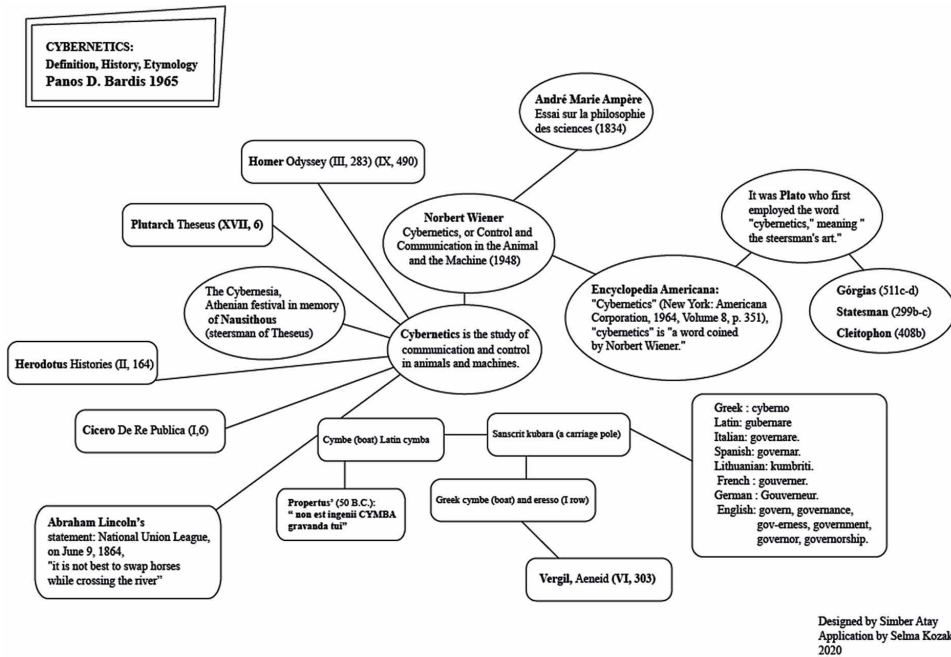
As is known, it was Norbert Wiener (1894-1964) founder of Cybernetics who coined the name of this new interdisciplinary science. Wiener (1985) explains this subject in original introduction of his book "Cybernetics or Control and Communication in the animal and the machine" published in 1948 as follows: "... as happens so often to scientists, we have been forced to coin at least one artificial neo-Greek expression to fill the gap. We have decided to call entire field of control and communication theory, whether in the machine or in the animal, by the name Cybernetics, which we form from the Greek κυβερνήτης or steersman...We also wish to refer to the fact that the steering engines of a ship are indeed one of the earliest and best-developed forms of feedback mechanisms" (pp.11-12).

After the book (1948) mentioned above, Wiener published another book on Cybernetics in 1950, this time it was a popular science book: *The Human Use of Human Beings Cybernetics and Society*; Wiener (1989) here, in the same way, underlines how he coined the name of cybernetics: "Until recently, there was no existing word for this complex of ideas, and in order to embrace the whole field by a single term, I felt constrained to invent one. Hence "Cybernetics," which I derived from the Greek word kubernetes, or "steersman," the same Greek word from which we eventually derive our word "governor." (p.15).

Bardis (1965), however, has a critical approach on Wiener's neologism: "It was Plato who first employed the word "cybernetics", meaning "the steersman's art" (p.227) quoting several real or metaphorical uses of "Cybernetics" word of Plato. Finally, Bardis (1965) also re- identified etymology of the word: "Cybernetics comes from the Greek noun cybernetes (Latin gubernator): steersman or pilot" (p.227) indicating several classical literary or cultural points of cybernetics. Moreover, we would like to show in this point a detailed schema of this text of Bardis:



Figure 1. Bardis' Map of Cybernetics



Cybernetics, with its interdisciplinary formation and structure beyond its own activities, also created an innovative method for interdisciplinary research. According to Rav (2002): "While we are accustomed nowadays to interdisciplinary research, wherein specialists from different fields work together on a common project, it ought to be remembered that the cybernetics movement was the first to materialize such an interdisciplinary confluence of specialties" (p.779).

Linguistics and Literature are naturally two sources of Wiener-the polyglot-. He used these sources when designing the science of cybernetics beyond mathematic, neurology, neuropsychology, biology, physics, communication engineering, statistics, computing technology, electronics, robotics, anthropology, philosophy etc.

## WIENER'S CYBERNETICS

His father, to whom Wiener dedicated his book "The Human Use of Human Beings Cybernetics and Society" (1950) was a professor of Slavic Languages at Harvard University. "Already by the age of six, the young Norbert was reading the widest variety of books in his father's library. He was attracted to zoology, physics, and chemistry. One article he read as a child excited in him -in his own words- "the

desire to devise quasi living automata” Cybernetics indeed has an early birth!” (Ray, 2002:782).

In explaining cybernetics, Wiener’s style as a writer has an intertextual fluidity in the same way. In his book *The Human Use of human Beings* Cybernetics and Society, he uses many literary sources. One of them is Lewis Carroll’s book *Alice in Wonderland*. The policy of irresponsible consumption and exploitation of Earth Resources, which has been going on for five hundred years, is explained by the scene of Alice’s Mad the Party: “When the tea and cakes were exhausted at one seat, the natural thing for the Mad Hatter and the March Hare was to move on and occupy the next seat” (Wiener, 1989:46).

Unfortunately, the problem expressed here continues to threaten life today as a global reality of everyday life, with its ecological symptoms such as global warming, environmental disasters, and species in danger of extinction beyond uncontrolled industrialization, and unplanned urbanization.

According to Wiener (1989): “Progress imposes not only new possibilities for the future but new restrictions. It seems almost as if progress itself and our fight against the increase of entropy intrinsically must end in the downhill path from which we are trying to escape” (pp.46-47).

For Wiener (1989), a scientist is a challenger in the face of nature, while nature also has its own laws, secrets and surprises. However, “nature plays fair” (P.188); on the other hand, there is no need for any artificial, doctrinal and ideologically defined reasons and justifications in this nature-scientist relationship: “Science is a way of life which can only flourish when men are free to have faith”. (p.193). In this context, the environments dominated by the totalitarian system and policies are absurd and unstable environments from the scientific perspective. Wiener likens such environments to the setting of the fantastic croquet game in *Alice in Wonderland*: “...where the balls are hedgehogs which walk off, the hoops are soldiers who march to other parts of the field, and the rules of the game are made from instant to instant by the arbitrary decree of the Queen.... The Marxist Queen is very arbitrary indeed, and the fascist Queen is a good match for her” (p.193).

Another author featured in the book is Rudyard Kipling. Wiener criticizes the idealization of Mowgli, the jungle boy isolated from civilization, present in Kipling’s *Jungle Books*, because it is necessary to learn language as a child, and human social life is based on speech: “Speech is the greatest interest and most distinctive achievement of man” (p.85).

Again, Kipling’s sci-fi story titled “With The Night Mail” is the story of the Aerial Board of control, which initially controlled airline transportation in the world, but eventually began to rule the entire world combined with airline transportation. According to Wiener, this is a fascist story, but:” To see and to give commands to the whole world is almost the same as being every where. Given his limitations

Kipling, nevertheless, had a poet's insight, and the situation he foresaw seems rapidly coming to pass" (p.97).

Today, this book is also a basic and up-to-date resource for understanding and describing the topic of cybernetics and the cyber culture in which we live. Because Wiener's work is neither a futurist utopia nor an anthology of scientific predictions; it describes scientific realities. Moreover this book is a scientific and humanist discourse in which a free mind scientist describes the organization of existence consisting of communication and control.

So much so that as we read the book, the perpetual evolution of digital technologies of our time, the possibilities and practice of the internet, communication and transmission of information begin to be perceived in an even more natural way.

Members of the Family of Man now define and interpret their life and performance with two main prefixes: These two prefixes are inter- and cyber-.

Another author featured in the book is Charles Dickens. Wiener recalls "Members of the Mudfog Association- for the Advancement of Everything" in Charles Dickens' *The Mudfog Papers* (1837-1838) and "Daniel Doyce- The inventor-" in Charles Dickens' *Little Dorritt* (1855-1857) again while discussing

the functionalization of a scientific invention in the context of an industrial organization: "In the United States, Edison represents the precise transition between the Doyces and the men of the Mudfog Association. He was himself very much of a Doyce, and was even more desirous of appearing to be one. Nevertheless, he chose much of his staff from the Mudfog camp. His greatest invention was that of the industrial research laboratory, turning out inventions as a business" (p.115).

In the postmodern period, contrary to the modernist criterion, the organic link between social evolution and scientific progress has disappeared. Simultaneously, in the era of post-truth, the ideal/idealized link between communication and truth is weak. In other words, the chronic problem of us-inforgs who have become a communication instrument- is now the need for transparency; it's not for more information.

As Wiener (1989) said: "We are immersed in a life in which the world as a whole obeys the fusion increases and order decreases. Yet, as we have seen, the second law of thermodynamics, while it may be a valid statement about the whole of a closed system, is definitely not valid concerning a non-isolated part of it" (p.36).

In this context, post-apocalyptic sensitivity effectively describes the Zeitgeist of the 21st century. The cyber reason of this sensitivity, which sometimes causes romantic, sometimes pessimist, and sometimes nihilistic interpretations about human condition, is entropy.

Wiener (1989) has a realistic definition on this issue: "Remember that we ourselves constitute such an island of decreasing entropy, and that we live among other such islands" (p.40).

Thus cultural surviving or the preservation and functionality of universal humanistic values and memory records depend on the mass transmission of existing knowledge with an appropriate communication design. This is a sign of cyber-reflex!

## **COVID-19 AND CYBER-CHALLENGE**

By the way, Covid-19 pandemic and lockdown is also a global cultural and intellectual test. Deserted classrooms, deserted university lecture halls, deserted libraries, closed museums, empty art galleries, deserted concert halls, suspended cinemas, theaters... The situation was very tragic! Because our society, which is very accustomed to living in simulative way, has encountered massively illness and death in an unexpected, natural and real way. As Horváth (2020) underlines, during this pandemic: “The institutions and participants of the art world have found themselves in a new, dystopic world from one day to the next” (p.232).

Covid-19 pandemic had serious psychological and intellectual effects as Borbely (2020) defined in also theater context: “At the beginning of March (2020), a gap seemed to form between mankind’s old way of life and new one...Theatre companies responded to the new state of affairs by going online to various degrees” broadcasting the records of plays on YouTube or creating intermedial- theater/film/video- productions (pp.244-245).

However, after a while, people imprisoned in compulsory corona isolation managed to revive many suspended educational, artistic and academic activities by using existing virtual environments and communication technology intensively and creatively. Moreover, this success is a humanistic challenge at both individual and corporate level.

Especially art museums and galleries not only shared their collections through their social media accounts, they also started a collective art initiative; they encouraged their audience to recreate favorite works of Art History or History of Photography in their own environment using their own simple tools and materials. Thus, a new context for reproduction- ‘quarantine reproduction’- was created.

On the other hand, the artists started to move their intellectual and artistic activities and exhibitions to the virtual environment. In this context: “Perhaps one of the biggest winners of the pandemic was Google’s “Arts and Culture” project, dating from 2011, which virtually enabled an experience at distance, quite close to direct experience...Currently, the platform offers access to 2500 museums and galleries...” (Horváth, 2020: 237).

Wiener (1989) gave also a clear definition on this matter as well: “The process of receiving and of using information is the process of our adjusting to the contingencies of the outer environment, and of our living effectively within that environment. The

needs and the complexity of modern life make greater demands on this process of information than ever before, and our press, our museums, our scientific laboratories, our universities, our libraries and textbooks, are obliged to meet the needs of this process or fail in their purpose” (p.18).

After all, cyber mentality helps to overcome in any global crisis as in the Covid-19 pandemic, at least keeping the interactive transmission process in several fields of life.

## **REPRODUCTIVE CREATIVITY**

Walter Benjamin (1969), in his ‘The Work of Art in the Age of Mechanical Reproduction’ makes the following determination in the context of the concept of aura: “...by making many reproductions, it substitutes a plurality of copies for a unique existence. And in permitting the reproduction to meet the beholder or listener in his own particular situation, it reactivates the object reproduced... Both processes are intimately connected with the contemporary mass movements... This phenomenon is most palpable in the great historical films” (p.4).

This is a Janus-design; one side shows the crisis of cultural heritage but the other side displays the regeneration and popularization of cultural heritage. Again at this point, Benjamin (1969) quotes Abel Gance, one of the great pioneering directors of the history of cinema: “In 1927 Abel Gance exclaimed enthusiastically: “Shakespeare, Rembrandt, Beethoven will make films . . . all legends, all mythologies and all myths, all founders of religion, and the very religions . . . await their exposed resurrection, and the heroes crowd each other at the gate.”(p.4).

Today, one more time, the digital cinema and computer game industry have verified Benjamin’s determinations and Gance’s enthusiasm.

In our age, the possibilities of the digital cinema industry are constantly confirming the immensity of the cinematographic imagination. As well as the computer game industry displays an approach of intermediality aesthetic by nature. Therefore, these games have a dramatic structure based on legends and mythological heroes belonging to Classical Culture; in the same context, these games produce and update also variations of popular culture classics, moreover, these games could become a mass media phenomenon with the strategy of creating residual mythologies. Computer game player, in this interactive virtual environment, become a mythological hero in person, each game is a fantastic déjà-vu combat and survival performance by Sisyphus perseverance.

As well as for mass media such as photography, cinema, television, ‘being art’ is just one of the analytical functions of these media. In this context, there is a dialectical relationship between technique/ technology and art/aesthetics. Mutually,

a new technical facility creates a new visual language capability, or a new artistic requirement allows a new technological design to be realized.

Meanwhile, the avant-garde mind explores the possibilities of artistic creativity - as subject, material, device, process or method - beyond conventional boundaries. The same logic continues, as in modern art, in the postmodern-effectively in the anachronist way-and in cyber culture, then digital technology, the internet, and the virtual reality environment have become sources of artistic inspiration.

Therefore, cyber art today is a major art category.

## **CELEBRATION OF NEW**

Cyber art originally identified with two exhibitions:

1-Cybernetic Serendipity (1968, London: Institute of Contemporary Arts) has been curated by Jasia Reichardt. "It was the first exhibition to attempt to demonstrate all aspects of computer-aided creative activity: art, music, poetry, dance, sculpture, animation" (Norman, 2020:1).

This exhibition is a magnificent and inherently experimental collaboration in which scientific creativity and artistic creativity are intertwined; on the one hand, there is post-avant garde research on new devices and strategies and on the other hand, there is pure representation of cybernetic principles as possibility and feedback.

According to Jasia Reichardt's own explanation: "*Cybernetic Serendipity* deals with possibilities rather than achievements, and in this sense it is prematurely optimistic (cited in Garcia, 2016:1)

As Burnham (1970), curator of the 'Software' exhibition that opened after Cybernetic Serendipity, underlines: "*Cybernetic Serendipity* contained much basic information on the historical development of digital computers. It included scientific experiments and works by artists which utilized the principle of feedback in machines designed to respond to *external* and/ or internal stimuli" (p.11).

2-Software (1970, New York: Jewish Museum; 1971, The Smithsonian Institution) has been curated by Jack Burnham.

The exhibition was sponsored by American Motors Corporation and the president of this corporation, Roy D. Chapin, Jr (1970), presents the exhibition as follows:

"*Software* is an exhibition which utilizes sophisticated communications technology, but concentrates on the interaction between people and their electronic and electromechanical surroundings" (p.5).

In this way, the digital industry opens up a new space for itself. It has the same capitalist design that covers the entire communication industry, especially the photography industry, since 19<sup>th</sup> Century: global production/consumption and élite presence of art of the same environment!

“Software’s technological ambitions were matched by Burnham’s conceptually sophisticated vision, for the show drew parallels between the ephemeral programs and protocols of computer software and the increasingly “dematerialized” forms of experimental art, which the critic interpreted, metaphorically, as functioning like information processing systems”(Shanken,2002:433).

This exhibition, like the other, is a modernist/optimistic performance because the artists participating in the exhibition have developed new creative strategies-cyber art- in a new context-cybernetics-with new devices and environments-hardware and software-.

Both exhibitions are celebrations of the “new” in a special period when the avant-garde was historicized, although people did not yet distinguish between the concepts of new and revolution. To keep the “new” in such a pure and intact position is a cyber-phenomenon. In this context, Lev Manovich also updated the original avant-garde understanding with Viktor Shklovsky’s *ostranenie* approach and defined a truly new media as device and environment for creative/artistic activities.

According to Manovich (2001), usually in daily life or in literary and cinematic narratives: “The elements on a syntagmatic dimension are related *in praesentia*, while the elements on a paradigmatic dimension are related *in absentia*”...But: “New Media reverses this relationship. Database (the paradigm) is given material existence, while narrative (the syntagm) is de-materialized. Paradigm is privileged, syntagm is downplayed. Paradigm is real, syntagm is virtual....This database is the center of the design process” (p.203).

In the art world, cyber art created an analog aesthetic/new media aesthetic dialectics. Postmodern anachronism, current conceptual art hegemony and -perhaps- power of nostalgia are main effects that intensify this situation. Therefore, historical, classical or conventional methods and practices in the visual arts and cinema have been rediscovered or re-gained importance.

For example, in the context of photography, the entire system is digital, but historical processes such as daguerreotype, cyanotype, sun print, or conventional black-and-white photography techniques are practiced currently with enthusiasm. Using such an old technique is a challenge in cyber-cultural environment, to open up an individual and independent space.

A similar situation exists in the field of painting. In the face of conceptual and electronic mixed media processes, figurative canvas painting has got the new and glorious meanings.

In traditional filmmaking context also, a realist cinematography, intact from the magnificent attractions of digital cinematography is considered sometimes as the virtuosity of the film director, sometimes as his/her ability of making irony or sometimes as an auteur strategy. Thus, today, especially” Cinema of Festival”

platform, relatively independent from the mainstream cinema industry has special importance.

Scientific inventions, technology and innovation are social realities and directly shape life shifting paradigms. Every innovative development brings anthropological changes to everyday life. This situation has created another science related cybernetics over time that is social engineering! Thus, digital technologies, new media, internet, virtual reality and the related communication and control mechanisms are at the same time aesthetic and philosophical phenomena.

## **CHAOS**

According to Deleuze and Guattari's (1996) philosophical design that displays mythological splendor, Chaos has three daughters: Art, Science and Philosophy. These are 'chaoids': "Realities produced on planes that cut chaos are called chaoids" but Chaos and Chaoids are in a constant struggle against each other; "Art transforms chaotic variability into chaoid difference", in other words, creates chaosmos. Science explores the chaos, determines it, and looks for stable environment coordinates by calculating variables and possibilities. Philosophy thinks about chaos, analyzes relevant existing theories and conceptualizes it (pp.182-185).

Approximately in 700 B.C., Hesiod (2016), in his Theogony, calls out to the Muses, daughters of Mnemosyne and the story begins to be told:

*"Tell me these things, Olympian Muses,*

*115 From the beginning, and tell which of them came first.*

*In the beginning there was only Chaos, the Abyss,*

*But then..." (p.135).*

On the other hand, in 1950, Wiener (1989) explains the logic of chaos: "As entropy increases, the universe, and all closed systems in the universe, tend naturally to deteriorate and lose their distinctiveness, to move from the least to the most probable state, from a state of organization and differentiation in which distinctions and forms exist, to a state of chaos and sameness" (p.12).

Thus, The Cosmogony of Hesiod and Entropy of Wiener define the cyber-coordinates of existence: Alpha and Omega, eventually in Aion mode of time.



Wiener (1989), also underlines the scientist's cyber-role against chaos, in this way: "The scientist is always working to discover the order and organization of the universe, and is thus playing a game against the arch enemy, disorganization" (p.34).

At this point, if we continue following the path of Deleuze and Guattari, the artist finds always rich sources of inspiration in the chaos and entropy. As for the philosopher, he or she defines existentialist moral values -preferably Sartre's ones!-.

## **CAN'T HELP MYSELF OF SUN YUAN AND PENG YU (2016)**

This is a very characteristic example of cyber-art. "In this work commissioned for the Guggenheim Museum, Sun Yuan & Peng Yu employ an industrial robot, visual-recognition sensors, and software systems...Collaborating with two robotics engineers, Sun Yuan & Peng Yu designed a series of thirty-two movements for machine to perform"(Weng, 2016:1).

Behind transparent walls of a cage, the robot looks like an alien/slave creature who is struggling desperately in the middle of a puddle of red fluid that gives the impression of blood, spreading it around.

According to Weng (2016), again: "...the robot's endless, repetitive dance presents an absurd, Sisyphean view of contemporary issues surrounding migration and sovereignty". However, the work has a much more sophisticated meaning beyond this interpretation related those "contemporary issues".

It's Golem! It's Dr.Frankenstein's Monster!

Golem is an ur-model of robots and androids. Besides the Golem legend is one of the legends of Baroque Prague and has inspired countless works in history of art.

In 1580, Rabbi Löw, in a ritual process, kneaded clay soil, molding a human-like figure and placing shem, a sacred piece of parchment with the name of God in his mouth and animated him. But after a while, the servant/ android of Rabbi Löw goes crazy, in other words, gets out of control. Then the Rabbi reverses the ritual, taking shem out of Golem's mouth and the lifeless creature is thrown under the tangled piles of old books in the attic of the Old-New Synagogue of Prague. The Golem, when becomes out of control and rebelled against its creator, is therefore eliminated (Ripellino, 1991:163-168).

Dr.Frankenstein's Monster is the famous romantic figure of Mary Shelley's book's *Frankenstein; or, The Modern Prometheus* (1818). This novel is one of the most popular and most read works of world literature and has many adaptations in many art branches, especially in cinema.

A passionate scientist, Dr. Victor Frankenstein wants to conquer death and concentrates his research on this subject, collecting dead body parts and created a human-like being. Over time, this creature also became known as Frankenstein.

But Monster Frankenstein also gets out of control, escapes and begins to commit murder; he cannot stay anywhere. Then Dr. Frankenstein devotes his life to catching him. Finally these two wanderers of their own fate reunite in the North Pole, but the doctor dies and Frankenstein disappears into the flames.

Dr. Frankenstein's Monster is an impossible companion, an alien and ultimately the abandoned child by his father.

The robot, the protagonist of the work, does not even have an anthropomorphic design. However, *Can't Help Myself* is an extremely tragic metaphor of loneliness and despair.

Golem and Frankenstein, as artificial beings, created by human intelligence, knowledge and imagination are two cultural origins of robotics and related technological design and aesthetic performances.

Wiener (1985), naturally pointed out Golem in his 'Cybernetics or Control and Communication in the Animal and the Machine': "At every stage of technique since Daedalus or Hero of Alexandria the ability of the artificer to produce a working simulacrum of a living organism has always intrigued people. This desire to produce and to study automata has always been expressed in terms of the living technique of the age. In the days of magic we have the bizarre and sinister concept of the Golem..." (pp.39-40).

Therefore, this work represents at the same time the historical simulacrum production phenomenon expressed by Wiener beyond actual deterritorialization/ reterritorialization problematic.

## **MEMORY OF TOPOGRAPHY OF TEAMLAB (2018)**

Memory of Topography, is an interactive digital installation created by teamLab. "An art collective that began in 2001; teamLab now has over 500 members, including animators, programmers, architects, mathematicians and designers...teamLab Borderless is a digital art space installed in The Mori Building Digital Art Museum, Tokyo with 60 individual artworks"(Charles, 2018:1).

Memory of Topography is one of these artworks. This is an immersive-art example as a variation of cyber art. Visitor or spectator, immersed into virtual reality, experiences interactively the nature, seasons, flowers, fishes etc. Spectator, becomes a natural element of landscape. This is a Deleuzian/Guattarian dream, pure affect! Moreover this spectator is an emancipated spectator in a spontaneous way. According to Rancière (2009): "Emancipation begins when we challenge the opposition between viewing and acting...spectators see, feel and understand something in as much as they compose their own poem, as, in their way, do actors or playwrights, directors, dancers or performers" (p.13).

Thus, in this beautiful cosmos- created partially also by sound that's composed by Hideaki Takahashi-, while universal harmony has been materialized, memory becomes conceptual. The time regarding memory already present here is not historical. This is Eliade's primordial mythical time.

## **THE CITY AS A HOUSE OF REBECCA MERLIC (2020)**

Rebecca Merlic, with "The City As A House" won 2020 award of "Marianne von Willemer—for Digital Media. Ars Electronica contributes institutionally to this contest.

Ars Electronica, working in the field of digital technologies, new media and digital art, was established in 1979 in Linz. It has international activities in many areas such as its own museum, galleries, exhibitions, competitions, festivals and school. Ars Electronica is a dream institution. Because it represents a humanist and pure creativity and social-cyber consciousness based on original interpretations simultaneously in the field of science and art. Wiener underlines that the education system harms the creative potential of young people; in addition, untalented and obsessed painters devalue artistic creativity. Whereas: "No school has a monopoly on beauty. Beauty, like order, occurs in many places in this world, but only as a local and temporary fight against the Niagara of increasing entropy" (p.134). This statement of Wiener seems to describe the mission and notion of Ars Electronica.

"The City As A House" is a visual novel by own description of Merlic. Thus the events take place in Tokyo and Merlic herself is the protagonist: "My smartphone is my only property, my organizer... I sleep in public spaces... No more cooking. ..Bathing is carried out in public spaces... The city as a house is a new strategy of dissolving one room after another. It is a Liberation. It is a proposition of a new form of society..." (Merlic, 2020:1).

She observes, she records everything, she completely immersed in Tokyo's public spaces and places. She was looking for an alternative life-style that is a very special mode of homeless life.

Merlic can be described as a cyber-flâneuse at first glance, but when we think a little more, it becomes clear that her attitude is more critical and closer to the situationist understanding and aesthetics. Thus her creativity as form and as concept, is based on *dérive* strategies. Because she has a radical and social aim that's described by her work.

On the other hand this visual novel is a transgressive work, not because she displays intimate scenes, but because she transforms a whole city into her private/ intimate place. Thus, she appropriates Tokyo, as a nomad and Tokyo becomes, once again, the fetish- object of desire, through her personal experiences.

## CONCLUSION

Cyberspace is loaded with mnemonic energy; there the past is updated, the future is archived. Postmodern anachronism loses its significance as an aesthetic politics. Besides, the boundaries between intellectual culture, academic culture and popular culture have melted. Cultural heritage became a cyber design component.

Cyberspace is an unlimited creative environment. The power of the Muses is also dominant here. PC, mobile phone, internet and related software and hardware, in short, the standard use of new media devices, systematically provides each individual to perform artistic performance. This is a reflection of global democracy in cultural sense and an altruistic phenomenon at the same time. During the Covid-19 pandemic, museums, galleries, theaters, cultural institutions opened their doors to the masses in cyberspace and they communicated in a very intensive and creative way. Thus the power of art, also in solidarity context was proven once again.

In this context, digital art has enabled the reinvention of analog art techniques that means the advantage to open individual areas-out of system- for artists.

Meanwhile, Cyber-art is a multi-functional environment. On the one hand, it produces romantic existential metaphors, on the other hand, it realizes art as a collective organization with its interactive feature and intensifies the haptic art experience in its immersive mode.

The cybernetic principles of Norbert Wiener determine the Zeitgeist of the 21st century, just like the 20th century. Because the two basic components of cybernetics - communication and control- are also the two basic components of life. Moreover, entropy, as

fundamental problem of cybernetics, is the equivalent of humanity's passionate chaos addiction.

In Christopher Nolan's *Tenet* (2020), Neil explained to the Protagonist: "As they invert the entropy of more and more objects... The two directions of time are becoming more intertwined... But because the environment's entropy flows in our direction... We dominate" (Nolan, 2020:125).

Eventually, we are all cyber- sophists who live between futuristic enthusiasm and post-apocalyptic phantasies.

## REFERENCES

- Benjamin, W. (1969). The Work of Art in the Age of Mechanical Reproduction (H. Zohn, Trans.). In Arendt H. (Ed.), *Illuminations*. Schocken Books. <https://web.mit.edu/allanmc/www/benjamin.pdf>
- Borbely, I. (2020). Mind The Gap in 2020: Beginning of a New Era in Theatre. In *Argumentor 6 Mind The Gap*, (pp. 243-253). Oradea: Partium Press & Debrecen: Debrecen University Press. [https://www.researchgate.net/publication/344248842\\_Mind\\_the\\_Gap\\_Proceedings\\_of\\_the\\_sixth\\_Argumentor\\_Conference](https://www.researchgate.net/publication/344248842_Mind_the_Gap_Proceedings_of_the_sixth_Argumentor_Conference)
- Cărtărescu, M. (2014). *Orbitor* (vol. 1, S. I. Acambet, Trans.). İstanbul: Ayrıntı.
- Charles, A. (2018). *A new, interactive, digital-only museum aims to create a new relationship between people and art*. <https://www.bbc.com/culture/article/20180904-the-stunning-artworks-made-of-light>
- Deleuze, G., & Guattari, F. (1996). *Felsefe Nedir* (T. Ilgaz, Trans.). YKY.
- Etymology. (n.d.). *The Cambro-Briton* (Vol. 1, No. 10, pp. 367-374). <https://www.jstor.org/stable/30068963>
- Garcia, C. J. (n.d.). *Cybernetic Serendipity - The Computer and The Arts*. <http://threeminutemodernist.weebly.com/home/cybernetic-serendipity-the-computer-and-the-arts>
- Hesiod. (2016). Theogony in *Anthology of Classical Myth*. Indianapolis: Hackett Publishing Company Inc. <https://users.pfw.edu/flemingd/Hesiod%20Theogony.pdf>
- Horváth, G. (2020). Mind The Gap. Fine Arts in The Age of Pandemic. In *Argumentor 6 Mind The Gap*, (pp. 229-241). Oradea: Partium Press & Debrecen: Debrecen University Press. [https://www.researchgate.net/publication/344248842\\_Mind\\_the\\_Gap\\_Proceedings\\_of\\_the\\_sixth\\_Argumentor\\_Conference](https://www.researchgate.net/publication/344248842_Mind_the_Gap_Proceedings_of_the_sixth_Argumentor_Conference)
- Malkiel, Y. (1962). Etymology and General Linguistics. *Word*, 18, 1–3, 198–219. doi:10.1080/00437956.1962.11659774
- Manovich, L. (2001). *The Language of New Media*. The M.I.T. Press.
- Merlic, R. (2020). *The City As A House - a visual novel*. <https://rebeccamerlic.myportfolio.com/thecityasahouse>
- Nolan, C. (2020). *Tenet*. Faber.

Pappas, M. S., & Bardis, P. D. (1965, October). Correspondence: On Book Reviews and Book Notes: Cybernetics: Definition, History, Etymology. *Social Science*, 40(4), 226–228.

Rancière, J. (2009). *The Emancipated Spectator* (G. Elliott, Trans.). Verso.

Rav, Y. (2002). Perspectives on the history of the cybernetics movement: The path to current research through the contributions of Norbert Wiener, Warren McCulloch, and John von Neumann. *Cybernetics and Systems*, 33(8), 779–804. doi:10.1080/01969720290040830

Ripellino, A. M. (1991). *Praga Magica*. Einaudi.

Shanken, E. A. (2002). Art in the Information Age: Technology and Conceptual Art. *Leonardo*, 35(4), 433–438.

Weng, X. (2016). *Sun Yuan and Peng Yu Can't Help Myself*. <https://www.guggenheim.org/artwork/34812>

Wiener, N. (1985). *Cybernetics or Control and Communication in the Animal and the Machine*. The M.I.T. Press.

Wiener, N. (1989). *The Human Use of Human Beings Cybernetics and Society*. Free Association Books.

## Chapter 2

# The Reflections of Technological Singularity on Open and Distance Learning Management

**Serap Sisman-Uğur**  
*Anadolu University, Turkey*

**Gülsün Kurubacak**  
*Anadolu University, Turkey*

### ABSTRACT

*According to Kurzweil, technological singularity is the inevitable change of human civilization by all developments in technology, especially artificial intelligence. Open and distance learning systems are the systems that allow individuals to access learning materials and get education whenever and wherever they want. These systems are widely used today in programs offered by universities such as associate degree, undergraduate and graduate programs, as well as certificate programs and massive open online courses. This study discusses the technological singularity within the context of super-human and Human 2.0 concepts regarding the definition of “new human” that this phenomenon will shape, its reflections on education, and especially open and distance learning, namely open universities, and how these systems will transform. Its effects on managerial activities and managed processes in management were investigated, and suggestions have been made for restructuring management in accordance with this change and singularity in technology.*

DOI: 10.4018/978-1-5225-8024-9.ch002

## **INTRODUCTION**

The technological singularity (Wikipedia, 2018), which is defined as the hypothetical point where artificial intelligence will surpass human intelligence in the future and will radically change civilization and human nature (Wikipedia, 2018), will have been realized soon according to futurists (Vinge, 1993; Kurzweil, 2005; Shanahan, 2015; Eden, More, Soraker, Steinhart, 2015; Goertzel, 2017; Potapov, 2018; Yampolskiy, 2018). Another reason why singularity is believed to be approaching is the current study and developments related to artificial intelligence which is included in its definition. The new systems that have emerged with the development of artificial intelligence applications will be employed in open and distance learning in various dimensions, which will pave the way for a transformation process in the systems. As a matter of fact, in the literature, it is possible to find researches on the use of artificial intelligence in open and distance learning. The concept of “technological singularity” which is claimed to be the end product of the maturity process that artificial intelligence will pass through will inevitably impact the open and distance learning systems that reaches individuals through being fed by technology. Therefore, it is appropriate for open universities and institutions that provide open and distance learning services to take strategic decisions and start preparatory processes at the management level for this period.

## **THE EFFECTS OF TECHNOLOGICAL SINGULARITY ON THE MANAGEMENT OF OPEN AND DISTANCE LEARNING**

The constructivist approach that defines the teaching activities where the learners are actively involved in processes and learning by doing (Schank, 1996) will become the instrument by which the next generation will learn to join the world according to Ray Kurzweil (O’Keefe, 2016). In the constructivist approach, the emergence of a product and getting the learners to acquire the skill to present this product are important achievements. With this approach, real life skills can be taught. It is a well-known and generally acknowledged fact that learners’ motivation and success increase when they actively participate in their own learning processes (Açıkgöz, 2003; Kimonen and Nevalainen, 2005; Gülbahar, 2012). Kurzweil also anticipates that the individual, like his predecessors, should learn by doing and experiencing, and that passionately involving in problems and finding solutions will shape education in the future.

From the scope of this anticipation, it is inevitable to use technology and environments such as practical augmented reality, artificial intelligence optimizations, holograms, neurocognitive learning laboratories in order to realize learning activities



by doing and experiencing in open and distance learning. In addition, it is obvious that open universities that can reach large masses at once must assume the mission to cultivate individuals who have the skills to use technology and artificial intelligence in a future which will develop under the control of machines and super artificial intelligence which is predicted to be one level superior to artificial intelligence and believed to make logical interpretations and to be more intelligent than human.

When the technological singularity which is defined as the point when intelligent life is sustained beyond the existing human form and its limitations, and artificial intelligence has developed to be indistinguishable from human intelligence and integrated with it and attained the social status which is no longer seen as different from man is reached, some people will be living among us as people with artificial intelligence and the societies will be considering it normal, (More, 1990; Medium, 2017). From this perspective, as an outcome of technological singularity and super artificial intelligence, open universities that will supply information which can be downloaded, uploaded and backed up will be the educational institutions of the future. Open universities will also undertake the mission of preparing platforms where new information that will be formed according to the conditions of the day will be produced and provided.

Kurzweil stated that machines, robots and artificial intelligence make human life easier, and “they make us smarter. They may not be in our body yet; however, I think we will have been able to load our neocortex in the brain and our thoughts by connecting to a cloud whenever and wherever it occurs to us by 2030s. Kurzweil argues in an interview with SXSU that thanks to the Neocortex loading through this technology, the characteristics that are valued and demanded to exist in people will be improved a lot better (Futurism, 2017).

This idea is likened to Musk’s controversial neural lace and the “meta-intelligence” concept of Peter Diamandis, XPRIZE Foundation President. Musk’s neural lace is a device designed to optimize the mental output through the brain-computer interface, to enable human brain to effortlessly access the Internet and thereby adapt to the artificially intelligent systems (Creighton, 2017). Diamandis describes this point as the “evolution of intelligence” (nbeyin, 2018). Ghahramani, who defines artificial intelligence as automatized systems that define and decide on a template, states that it must be considered that artificial intelligence may cause especially certain social uneasiness (Warneck, 2017). In an interview with “Deus Welle Turkey”, Ghahramani said “when a process becomes more productive and effective, the employment relations developing around that process also change and this situation ends up with the situation when people are no longer required to work in those sectors. We must be prepared for such a scenario because we cannot stop technological progress. In the long term, artificial intelligence can affect everyone’s life standards, productivity and health in a positive way. However, on the other hand, he added “we should

prevent artificial intelligence from creating inequality and distribute its benefits in an egalitarian way” (Warneck, 2017).

In contrast to Kurzweil and Zuckerberg who find these developments promising, technology giants including Stephen Hawking, Elon Musk, Steve Wozniak, and even Bill Gates consider these developments worrisome (Demircan, 2015; Kılınc, 2017; Papuççuyan, 2017).

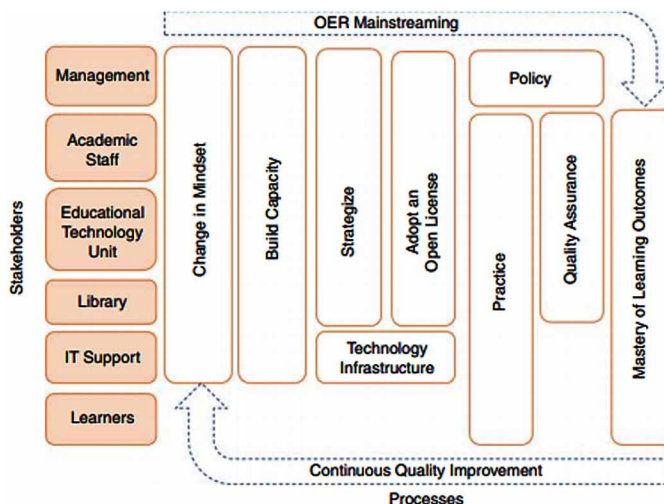
Whether utopian or dystopic, the common denominator of scientists who express their opinions in both directions is that singularity will occur. According to Kurzweil, this evolutionary process that will raise human to the singularity phase consists of six stages both biologically and technologically:

- The first phase, evolution in physical and chemical structure:
- second stage, biological DNA evolution:
- third stage, evolution of the nervous system and brain structure;
- fourth stage, evolution in technological equipment;
- the fifth phase, the evolutionary phase based on the unification of technology and human intelligence;
- the sixth phase, the awakening of the universe, the increased knowledge level regarding the coexistence of matter and energy patterns.

In open and distance learning, the need for adaptation process to singularity technologies can be predicted. Open universities need to synchronize their educational services with singularity technologies, and there is a need to provide innovations by utilizing these technologies. “horizontal management for OER” which is an approach that can be used in management organizations of open university can provide a foundation for the management of new education processes that technological singularity necessitates in open universities. Abeywardena (2017) refers to the current OER management approach as “management from top to down”. In this horizontal approach that he suggests as an alternative to the top-down approach, he draws an experimental framework for OER structuring in academic institutions. In this framework, the academic staff are responsible for providing the implementation of the OER by following the directives of the management in cooperation with the educational technology unit, IT support (technical support) and library. In this proposed model, stakeholders form teams to systematically carry out all processes taking into account the learners. One of the key points here is the learning outcomes. This model allows “continuous quality improvement” which transforms unilateral configuration process to a repeating activity. Yawan and Ying (2013) stated that the exercises in the model were not adopted by the main stakeholders because they were perceived as an additional workload. Abeywardena (2017) expressed that OER management and all processes must be perceived with a holistic approach, and that

all stakeholders have an equal share in the implementation of OER activities. The chart for Abeywardena's approach is given below.

*Figure 1. Horizontal Approach for OER*



This horizontal approach;

- Collaborative team-oriented nature will provide higher success rates by leading to greater ownership, transparency, and sharing of responsibilities among key stakeholders.
- Stakeholders form teams to systematically conduct the multiple processes required for OER integration.
- Students are considered as main stakeholders because the quality of teaching and learning has a direct impact on their mastery of learning outcomes.
- The model will provide “continuous quality improvement” which turns the unilateral integration process to scalable repetitive activity by measuring the mastery of learning outcomes.

Considering these advantages, it can be thought that the results of the horizontal management approach in open universities will be effective in terms of providing students with 21st century skills. The competencies obtained from the studies conducted on 21st century skills expected from students were (Andrew, Rotherham and Willingham, 2010; Bellanca and Brandt, 2010; Breivik, 2010; Silva, 2009; P21, 2017; Wagner, 2008):

## **Learning and Regeneration Skills**

- Creativity and Regeneration
- Critical Thinking and Problem Solving
- Communication and Cooperation

### Information, Media and Technology Skills

- Information Literacy
- Media Literacy
- Information and Communication Technologies (ICT) Literacy

### Life and Professional Skills

- Flexibility and Compliance
- Entrepreneurship and Self-Direction
- Social and Intercultural Skills
- Productivity and Responsibility
- Leadership and Responsibility

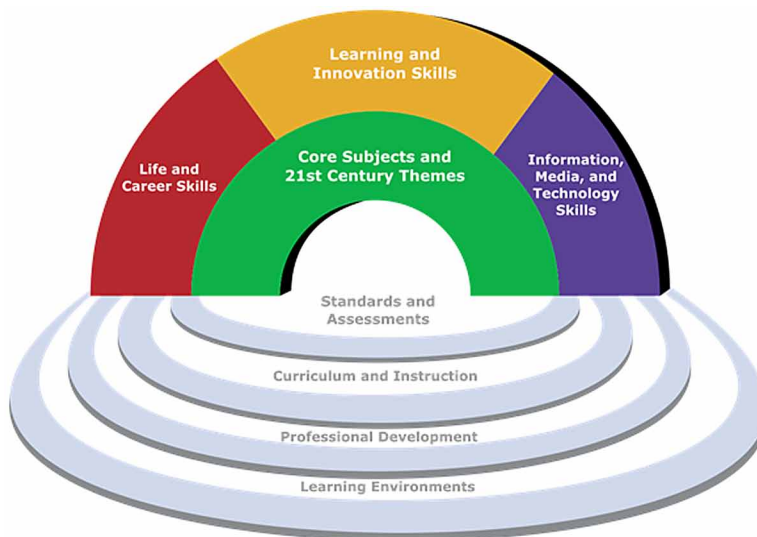
The compiled scheme of the 21st century skills prepared by P21 platform is given below.

Considering the scheme, it can be predicted that individuals of all ages may need these skills, and it is necessary to develop the education system and the integration of new technologies to gain these skills. For the development of open and distance learning systems in terms of mass education in future generation's learning and singularity era, determining the work fields in need of human resource, cultivating individuals that are able to develop artificial intelligence algorithms and applications, raising robot developers and developing robots, creating structures that bring human and robot intelligence together and preparing curriculum necessary for cultivating scientists to work in this field and making necessary regulations for this preparation process for human 2.0 which loses its up-to dateness and alternative super human period are part of this transformation period. Accurate planning and implementation of this process is essential for successful programs.

In this context, it would be correct to benefit from artificial intelligence and artificial super-intelligence optimizations to determine the program for identifying the students to be accepted to open universities and opening the programs, the courses to be included in the program, previous learning competencies, passing and graduation conditions. Social network analysis can be used to determine target audience characteristics and to ensure access to individuals with program

preconditions. The applications of artificial intelligence that engages decision systems by creating algorithms with the data drawn from social networks will save time, space and manpower at this stage.

*Figure 2. 21st century skills and competences*



It is important to properly organize the duties and responsibilities of stakeholders during the program development phase. Stakeholders in management and service processes including managers, academic staff, educational technology unit, library, information technology support services and learners share the responsibility of structuring the institution. At this point, the need to revise the ethical rules within the framework of singularity is also inevitable. Considering the singularity predictions, it especially becomes important to determine the areas of employment, produce new information, accumulate old information in the information banks, make necessary researches for new information, produce the materials and technologies to be presented. The need to develop different standards for the programs / curricula to be developed during the singularity period is inevitable. This structuring and management of the process can be considered as a separate research topic.

In this managerial process, attitudes towards openness culture and established taboos about copyright must be destroyed (Abeywerdana, 2017). Of course, a gaining of singularity in this dimension is of course the need to keep resources flexible in the context of openness and accessibility. This brings the need for open universities to set new administrative criteria for the content they offer.

New methodologies, approaches and philosophies must be developed to restructure the learning in learning services offered by open universities, as well as both in this managerial approach and in learning, which is an effect of technological singularity. At the same time, all human resources involved in the system should be informed and directed by preparing new guides and guidelines for managers, trainers and learners. It is essential for open universities, mega universities and institutions that offer open and distance education services to initiate these works in the name of readiness to singularity.

Strategies to be determined in during the preparation period for singularity play a key role in the success of the organization in this process. The objectives of the open university should be clearly mapped in relation to quality and access / interaction when determining the institutional strategy. A strategy team, which will be established to this end, should work on a variety of approaches to determine how to develop open universities in this map context, the community of international academicians, pedagogical, institutional, personal and technical issues related to openness and transformation in the content. The institutions will take one step further from their competitors through researches to be carried out on topics including in-house managerial activities, decision support systems, administrative duties, administrative staff, academic content, learning support services, measurement and evaluation systems, learning management systems, accreditation, graduation and employment by determining short, medium and long term objectives.

As previously mentioned the copyright regulation necessary for the adoption of openness: An institution wide-open licence selection can be made at the beginning of the configuration process to minimize the possible complications. Different licenses at different stages may be required for all services to be offered by the open university or open and distance education institution. For example, there are many different tasks to be prepared ranging from preparing content to presentation for services including new content to be prepared, new mobile applications to be developed, management, audit, support, presentation and evaluation systems, and the human resource to fulfill these tasks. Licensing for produced content, materials and systems also means that they are all considered to be products and extra income to the organization by becoming salable. Based on the current technological infrastructure in determining strategies and licensing processes, future singularity technologies such as learning machines, machine producing machines, artificial super intelligence, nano robots should be considered as criteria. In open universities, the quality of the service could be improved if all personnel were be able to use the latest technology and had the competence to use them. Considering the robotic technologies used today, it is very difficult to predict the evolution of the robots that will be used during the singularity and the versions that they will evolve into. Hans Moravec from Carnegie Mellon University, who make predictions about this

subject like Kurzweil, asserted that robots with artificial intelligence will develop the machines that learn by evolving with automation in the future. For such future, conducting studies on abstract concepts such as empathy and will in human-robot interaction area is inevitable.

Information technology support should include the most up-to-date software and platforms as well as physical devices. In addition, a storage library where all types of content, learning materials are kept, will ensure the creation of an institutional culture and archive. It will allow creating the systems that update themselves and can be called smart content systems with data retrieved from this storage, and even can be called as intelligent content systems which offer itself to the user and prepare its own presentation in different kinds through artificial intelligence. Learning assistants supported by the data of individuals' learning maps, mind maps and learning habits also stand out as an important service at this point. These assistants who will work in integration with intelligent or intelligent content will help learners in planning learning process while providing the data that institutions will need in learning management systems and learning analytics, and they will also pattern the learning activities specific to individual through machine learning. These devices which can be used as integrated to mobile device can be modeled as holograms to be modeled in 3D. It is necessary to establish the necessary teams and provide the right human resources structuring in order to develop individualized special learning structures that will be heard as a result of singularity technologies.

Open universities, which will gain a new meaning with singularity technologies, should develop educational policies from the national to the universal. In addition, studies regarding accreditation are also required. These policies and accreditation will aid providing equal opportunity in education and perception management and provision of institutional reputation through helping to protect the rights of institutions, working personnel and learners.

Hogg and Hogg (1995), define continuous quality improvement in higher education as "teaching people in an organization to see themselves as part of a larger systematic operation" (p. 37). This definition has been developed based on total quality management defined as "continuously providing better and more economic service, using scientific method and team work and focusing on avoiding all kinds of unnecessary burdens" (Hogg and Hogg, 1995, p. 1). Continuous quality improvement is used to try to ensure that all students have the necessary knowledge, competence and qualifications to succeed after leaving the education system. In order for these results to be achieved and maximized for all students, institutions are required to be properly structured and operated (Spady, 1994).

Nowadays, artificial intelligence applications which can give reactions such as "that" person being nourished from the posts shared on their social media accounts, their technological device using habits and feedback given by the people that they

socially interacted can be developed. The concept that is used as a digital avatar defines the artificial intelligence that acts as "that" (Demircan, 2013). It can easily be said that these digital avatars will play an important role in the learning of the future.

These studies will be only a "first step" for the future.

## **THE EFFECTS OF TECHNOLOGICAL SINGULARITY IN PROCESSES SUBJECT TO MANAGEMENT**

There are 8 processes required to be managed in institutions offering open and distance learning services, especially in universities (Uğur, inpress). These processes can be classified as:

- Program development process
- Registration process
- Content preparation process
- Content presentation process
- Performance Tracking Process
- Communication Process
- Assessment and Evaluation Process
- Audit process.

The applications of artificial intelligence to be used in the structuring of these processes can be seen as one of the important stages of the preparation period for singularity. Correct structuring and management of these processes are also important. Naturally, there is a need for human resources to be trained as well as trained human resources to realize these processes. Along with the need for human resources, material resources, physical and hardware requirements, provision of the appropriate infrastructure, acquisition and development of software, and the provision of technology are the requirements that need to be addressed in these processes. The realization of research and development projects and being ready for the singularity period will only be possible by the proper management of this structuring.

Program development, in other words, "Curriculum Design" is generally considered as a high-level process that describes learning in a particular study program leading to a specific credit or qualification units. The curriculum design process requires the creation of core programs / module documents such as course / module description, verification documents, guideline entry, and textbook. Resource allocation, marketing of the course, final goals of learners, general learning-teaching approaches and requirements must be considered in this process. In this process, the answers to the following questions are sought: "What needs to be learned?", "Which



resources does it need? ”, How is this rated? (JISC, 2008). In the provision and production of knowledge, the issues including the organization of competencies, at what level the person who demanded knowledge need it, whether experience transfer will happen or not along with information are prominent factors in this dimension. The determination of the criteria for these issues, the structuring and organization of the process, the creation of new program development methods within the framework of the needs that will be brought about by the singularity, the development of new programs for the identified need can be discussed in separate studies.

In enrollment processes, learners can register to a program they have chosen by a centralized system as they wish. Nowadays, the process starts with the placement or application of an individual to the program. The institution establishes online systems primarily for this process, negotiates with the bank for the payment system, prepares the necessary software systems for the services to be presented to the learner after registration and the infrastructure for these systems. In some institutions, procedures such as procurement of the necessary documents and payment are carried out through offices. After the registration, accounts of learning management systems where the material that learners will use are presented are created and the materials for the additional course materials are provided to students. In this process, It is naturally predictable that preparation of necessary documents, identification of online systems, payments etc. which are necessary for both institution and individual will disappear during the singularity period. Foreseeing new dimensions such as wearable technologies, demanding information from institutions through acquired/loaded technologies, determining at what level the demanded information can be presented in line with needs, individual's recognition of previous learning and determination of individual's suitability to demanded information, and preparing to singularity period in line with these predictions will be a correct strategy for the future of institutions. These preparatory processes alone can be discussed in separate studies.

It is inevitable for technological singularity to affect the content and information presentation methods. In fact, it will be possible for individuals to transfer their experiences they gained in their work and their fields of interest to other individuals. The suitability of individuals to the information they want to have, the suitability of having the extent of the information, determining individual's previous learning, the assessment of the knowledge regarding its usage and creating a consciousness according to this need, making the knowledge presentable, provision of necessary technologies and developing appropriate software, planning the processes such as improving artificial super intelligence, intelligence content and intelligent content management systems are prominent points in this process. However, in addition to the transfer of existing knowledge to another individual, strategies should be created for the organization of the production processes such as the preparation of new information with appropriate presentation methods, selection of the right

technologies, determination and regulation of knowledge levels according to needs and categorization according to different application areas. Determining whether individuals are biologically and psychologically suitable for these information is a crucial aspect at this stage and is a separate research topic. Different research and development processes are needed to be implemented for all these stages from development of artificial super intelligence applications to be used in the structuring of these processes to the organization of information, experience and content presentations, and each of these can be considered as a subject in separate studies. In addition, separate studies need to be done on presenting/uploading the knowledge to ones who demand at all times, determining the criteria and ethical and legal dimensions.

Naturally, the need for open universities to use presentation and management systems for content presentations compatible with the singularity technologies will be inevitable. There are studies on the development of existing learning management systems with the integration of artificial intelligence. Developing the intelligent learning management systems, conducting usability tests and putting systems that renew and update themselves by determining the needs for individuals and institutions nourishing from learning analytics to be obtained from movement in the system into effect can be counted among the services necessary to be reconfigured with technological singularity. Universities and other institutions who will provide open and distance learning service must produce projects to develop these systems for knowledge presentation and learning methods that will be created in the future by organizing a research and development team.

There is no doubt that the human resource will be most affected by the technological singularity. We can make this prediction for the future based on today's conditions in which machines / robots have started to replace people in many fields. Open universities, open and distance learning institutions will also be affected by this resource change process. The applications developed by artificial intelligence applications and optimizing business processes, workflows that can connect to automation and processes which can be performed by robots have been the subject of many researches today. According to McKinsey Institute's report, it is stated that between 3 and 14 percent of workers in the world will need to change their profession or acquire new skills by 2030, and the distribution of the proportion by countries will be proportional to the level of development of countries (McKinsey, 2018; Project Syndicate, 2018). Economist Dhaval Joshi expressed that artificial intelligence can easily replace people in works where logic and mathematical competencies are at the forefront, but although artificial intelligence seems to be able to do the work of nurses or lawyers, tasks such as decision-making, solving dilemmas, creating, imagining, strategy, bargaining, etc. are also defined as jobs that can be carried out by people. Although these developments are believed to cause

job losses for people, as Kurzweil stated, these developments lead to the emergence of new business fields in a sense. In this context, the results of the research are important in the preparation of the technological singularity period, especially for the construction of human resources. New and higher level business fields can be created for human resource making routine workflows processes in open universities such as enrollment, content production, content presentation / transfer, evaluation and auditing sustainable with artificial intelligence supported automations. In these processes, performance monitoring of human resources and machine resources can also be realized in collaboration of artificial intelligence and manpower.

It is very important for the individuals who are in the system for information and learning to communicate with other individuals who benefit from the system and with the artificial intelligence and bots employed in the service. In open and distance learning, support services can be said to emerge to provide an opportunity for independent study opportunity between individual study and distance learning in the absence of face-to-face learning (Paier, 2007). From this point of view, solving the questions and problems of individuals, ensuring satisfaction, increasing the quality of the service, determining expectations, individuals being able to get support and assistance in the subjects they need are also prominent responsibilities for the reputation of the institution. In this sense, it is essential to ensure that individuals who are involved in the system can communicate with content providers, information preparers and individuals who have had access to the system in the past or at present. Likewise, restructuring the support services that the personnel will need in the system for the singularity period will be necessary. Thanks to the developments in artificial intelligence, the frequently asked question bots and chatbots can be set to work by converting them into intelligent systems in the future. In addition to techniques such as augmented reality and 3D Hologram for the singularity period, studies can be carried out to reconstruct the presentation of these services with humanoid robots.

As one of the most critical and focusing processes among the processes, measurement and evaluation is the subject of many different researches and various methods. Various methods and technologies are being developed for the information and experiences presented in online environments. In addition to multiple-choice tests, which are the most widely used measurement and evaluation methods for distance learning programs, different assessment methods have been tried to be added in recent years. For example, in applications named partial examination system (AOF, 2017), students are subject to both multiple-choice tests and open-ended questions along with assessment tasks such as homework, projects and portfolios. However, considering the singularity technologies of authentic assessment, peer review, and self-assessment methods, they can be considered as methods to be developed in the assessment and evaluation dimension. On the other hand, it can be said that

studies should be carried out to determine which type of assessment and evaluation activities will be carried out.

The audit phase is one of the most critical stages. It is of course inevitable that the institutions, where ready-to-use information and experience are stored, new information produced and made ready for presentation, should be audited at every stage of all these processes. Of course, it would not be wrong to state that machines developed with artificial intelligence as well as human resource will be used in this audit. It can be said that the components of this process will turn into a new structure for the accreditation dimension. Therefore, it is important to focus on research that will determine the new accreditation structure.

## **CONCLUSION**

Open universities will become mega-universities in terms of the number of students, the content and services they offer to students in the future. Mega open universities must be compatible with technological singularity for this transformation to be sustainable, ergonomic and high quality. In this context The reflection of technological singularity on the management of the mega university will be on the processes of management and interaction, operation of the system, presentation and distribution of information, quality of learning etc.

On the other hand, from the perspective of the learner, the technological singularity will lead to differences in terms of the necessities of the era and 21st century skills . These differences, in particular, allow for individualization in the virtual world and help the development of new generation learning skills. New generation learning skills; unlike traditional learning, are a new form of learning (Sisman-Ugur, Kurubacak-Meric, inpress) where the individual passes to technological singularity and integrates with the world.

## **REFERENCES**

Abeywardena, I. S. (2017). *An empirical framework for mainstreaming OER in an academic institution. Asian Association of Open Universities Journal*. doi:10.1108/AAOUJ-11-2017-0036

Açıkgöz, K. Ü. (2003). *Aktif öğrenme*. Eğitim Dünyası Yayınları.

Barton, D. (2018). McKinsey Quarterly 2018 Number 2: Overview and full issue. *The McKinsey Quarterly*.

Bellanca, J. A. (Ed.). (2010). *21st century skills: Rethinking how students learn*. Solution Tree Press.

Breivik, P. S. (2005). 21st century learning and information literacy. *Change. The Magazine of Higher Learning*, 37(2), 21–27. doi:10.3200/CHNG.37.2.21-27

Callaghan, V., Miller, J., Yampolskiy, R., & Armstrong, S. (2017). *Technological singularity*. Springer. doi:10.1007/978-3-662-54033-6

Demircan, K. (2013). *Dijital avatarlar insanın yerini alıyor*. Reached: <https://khosann.com/dijital-avatarlar-insanin-yerini-aliyor-olumsuzluk-pesindeki-rus548 milyarder-2045te-zihnini-bilgisayara-yukleyecek/>

e-Gazete. (2017). *Açıköğretimde “Parçalı Sınav Uygulaması” dönemi*. <http://egazete.anadolu.edu.tr/kampus/35658/acikogretimde-parcali-sinav555>

Eden, A. H., Moor, J. H., Søraker, J. H., & Steinhart, E. (2015). *Singularity Hypotheses*. Springer.

Fadel, C. (2008). *21st Century Skills: How can you prepare students for the new Global Economy*. Academic Press.

Galeon, D., & Houser, K. (2017). *Google’s Artificial Intelligence Built an AI That Outperforms Any Made by Humans, Futurism*. <https://futurism.com/google558 artificial-intelligence-built-ai/>

Ghahramani, Z. (2015). Probabilistic machine learning and artificial intelligence. *Nature*, 521(7553), 452–459. doi:10.1038/nature14541 PMID:26017444

Goertzel, B. (2007). Human-level artificial general intelligence and the possibility of a technological singularity: A reaction to Ray Kurzweil’s *The Singularity Is Near*, and McDermott’s critique of Kurzweil. *Artificial Intelligence*, 171(18), 1161–1173. doi:10.1016/j.artint.2007.10.011

Gülbahar, Y. (2012). Study of developing scales for assessment of the levels of readiness and satisfaction of participants in e-learning environments. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 45(2), 119–138. doi:10.1501/Egifak\_0000001256

Hansell, G. R. (2011). *H+/-: Transhumanism and its Critics*. Xlibris Corporation.

Hogg, R. V., & Hogg, M. C. (1995). Continuous quality improvement in higher education. *International Statistical Review/Revue Internationale de Statistique*, 35–48.

JISC. (2008). *Curriculum design*. <https://www.jisc.ac.uk/rd/projects/curriculum-design>

Kharod, H. (2018). *Elon Musk wants to give you super human cognitive powers*. <https://medium.com/hackernoon/elon-musk-wants-to-give-you-super574human-cognitive-powers-e8930b2ab1e9>

Kimonen, E., & Nevalainen, R. (2005). Active learning in the process of educational change. *Teaching and Teacher Education*, 21(6), 623–635. doi:10.1016/j.tate.2005.05.003

Kohli, S. (2015, Jan. 30). Bill Gates joins Elon Musk and Stephen Hawking in saying artificial intelligence is scary. *Quartz*.

Kurzweil, R. (2005). *The singularity is near: When humans transcend biology*. Penguin.

Moravec, H. P. (2000). *Robot: mere machine to transcendent mind*. Oxford University Press on Demand.

Moyer, J. (2014). Why Elon Musk Is Scared of Artificial Intelligence—and Terminators. *The Washington Post*.

O’Keefe, A. J. (2016). *Kurzweil Says Passion Projects Are the Best Way to Learn*. <https://singularityhub.com/2016/09/15/kurzweil-says-passion-projects-are-the-best-way-to-learn/>

Omohundro, S. (2012). Rational artificial intelligence for the greater good. In *Singularity Hypotheses* (pp. 161–179). Springer. doi:10.1007/978-3-642-32560-1\_9

Paier, M. (2007). *Student support services in distance learning systems*. Vienna University of Technology Since.

Potapov, A. (2018). Technological Singularity: What Do We Really Know? *Information (Basel)*, 9(4), 82. doi:10.3390/info9040082

Reedy, C. (2017). *Kurzweil Claims That the Singularity Will Happen by 2045*. <https://futurism.com/kurzweil-claims-that-the-singularity-will-happen-by2045>

Rotherham, A. J., & Willingham, D. T. (2010). 21st-Century” skills. *American Educator*, 17(1), 17–20.

Sandberg, A. (2013). An overview of models of technological singularity. *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*, 376-394.

Schank, R. C. (1996). Goal-based scenarios: Case-based reasoning meets learning by doing. In *Case-based reasoning: Experiences, lessons & future directions* (pp. 295-604). AAAI Press/The MIT.

Shanahan, M. (2015). *The technological singularity*. MIT Press. doi:10.7551/mitpress/10058.001.0001

Silva, E. (2009). Measuring skills for 21st-century learning. *Phi Delta Kappan*, 90(9), 630–634. doi:10.1177/003172170909000905

Spady, W. G. (1994). Outcome-Based Education: Critical Issues and Answers. American Association of School Administrators.

Sternfels, R. (2018). *McKinsey Quarterly 2018 Number 1: Overview and full issue*. [https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our613 insights/mckinsey-quarterly-2018-number-1-overview-and-full-issue](https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our613%20insights/mckinsey-quarterly-2018-number-1-overview-and-full-issue)

Uğur, S. (2019). Sosyal ağlar, dijital avatarlar ve teknolojik tekillik (editöre mektup). *AUAd*, 5(2), 4–8.

Uğur, S., & Kurubacak, G. (2019). Artificial Intelligence to Super Artificial Intelligence, Cyber Culture to Transhumanist Culture: Change of the Age and Human. In *Handbook of Research on Learning in the Age of Transhumanism* (pp. 1-16). IGI Global.

Vinge, V. (1993, March). Technological singularity. In *VISION-21 Symposium sponsored by NASA Lewis Research Center and the Ohio Aerospace Institute* (pp. 30-31). Academic Press.

Wagner, T. (2008). Even our “best” schools are failing to prepare students for 21<sup>st</sup> century careers and citizenship. *Educational Leadership*, 66(2), 20–25.

Warneck, L. (2017). *We must make sure artificial intelligence doesn't increase inequality*. [https://www.dw.com/en/we-must-make-sure-artificial628 intelligence-doesnt-increase-inequality/a-41487111](https://www.dw.com/en/we-must-make-sure-artificial628%20intelligence-doesnt-increase-inequality/a-41487111)

Wikipedia. (2018). *Technological Singularity*. [https://en.wikipedia.org/wiki/Technological\\_singularity](https://en.wikipedia.org/wiki/Technological_singularity)

Yampolskiy, R. V. (2018). The singularity may be near. *Information*, 9(8), 190.

Yawan, L., & Ying, L. (2013). A study on the use of open educational resources in China. *Open Education Resources: An Asian Perspective*, 21-39.

## Chapter 3

# Nature and Culture in Digital Media Landscapes


**Tiago Cruz**

*University Institute of Maia, Portugal*

**Fernando Paulino**

*University Institute of Maia, Portugal*

**Mirian Tavares**

 <https://orcid.org/0000-0002-9622-6527>  
*FCHS, University of Algarve, Portugal*

### ABSTRACT

*The landscape genre in art is something that has not been explored until today, despite being a dominant genre until the 20th century. During the industrial revolution, in the context of cinema, photography, and other media, this genre continues its strong presence. However, it is not so clear what happens with the advent of digital media. In this context, the authors contextualize landscape, having visual culture and social semiotics as their point of view, and present a set of digital media-art artefacts that are taken as references to the way the topic has been approached and explored and where digital media assume themselves as tools and products in the construction and presentation of the artistic work. The objective will be to expose how the concept of landscape evolves, and it is presented in the scope of digital media-art.*

DOI: 10.4018/978-1-5225-8024-9.ch003



## **1. INTRODUCTION**

The question of verisimilitude in art is something extremely important before the industrial revolution, being one of the main factors that contributes to the intensification of the value of truth in images. Landscape painting is related to this interest and, at the same time, to the presentation of a subjective point of view of its author. Representing what our senses apprehend is, in the end, an impossible task due to a whole interpretive process related to perception and, in this sense, landscape painting reflects a whole set of values, rules and cultural codes. There are even several cases of artists who deliberately add elements to their paintings - like trees and mountains - that do not exist in the physical space contemplated in order to produce a certain aesthetic and / or conceptual effect.

The way we relate to nature is a determining factor in the way we represent it and, in the West, it is at the time of the Renaissance that an important change takes place. Until now, nature was something unknown, producing fear in the individual who perceived the natural environment full of connotations such as mystery, danger, mysticism, among others. With the advent of the Renaissance, the individual ventures into the natural world and begins to perceive aesthetic values in it. It is at this point that the landscape emerges in paintings as a background element, contextualising and complementing another more dominant topic. Nature thus appears in visual culture, as a semiotic resource in the construction of a visual message. Its connotations are now used to reinforce, complement, a main theme. According to Malcolm Andrews, when he tells us about the role of landscape in the paintings that represent Jerome, “Most fifteenth -and sixteenth- century paintings of Jerome in a landscape follow this basic compositional idea and thus charge the natural setting with dramatic significance, but the human subject needs the landscape to complete his meaning. Landscape becomes a dramatic agent rather than simply a decorative setting.” (1999)

Plato and Aristotle debated the nature of images and, while Plato assumes the images are bad because they trick our senses making us believe that we are in the presence of the thing, Aristotle defended the didactic value of images, recognising its power to convey concepts, feelings, ways of seeing. In a more Aristotelian perspective, the presence of nature in painting, presenting this new look at the natural world, will cause profound changes in the way in which Western visual culture develops in relation to the landscape.

It is in the 16th century that the European concept of landscape emerges related with a painting in which the main theme was centered in the natural scenery. (Olwig, 1996) The artistic genre appears later, in the 17th century, particularly in Holland and, in the 19th century, in full romanticism, the topic gets universal as a dominant artistic genre.

All representations are a reflection of a way of seeing, culturally programmed, of the individual. (Mirzoeff, 2009; Sturken & Cartwright, 2009; Gubern, 2007; Flusser, 1998) In this sense, the representation of nature turns out to be a reflection of a particular way of looking at the rural world. (Mitchell, 1994) On the one hand, semiotic discourses related to nature are culturally produced, ultimately being influenced to a large extent by the conventions of visual culture, and on the other hand, artists reflect and react to these discourses in works that, in turn, will shape social perceptions. The representation of the landscape is part of this cyclical process where the production and reading of images are processes that feed each other. In these representations, certain aspects are highlighted at the expense of others because, both in the act of production and in the reading of images, we are constantly in a process of choices, in a game with social conventions and codes, in order to communicate a particular message or experience. From the point of view of Social Semiotics, in particular by Theo Van Leeuwen (2005), semiotic discourses are born within social practices and, in this sense, discourses related to the landscape originate in filtered social and cultural practices, where certain components are highlighted in detriment to others. With this in mind, the landscape can thus be picturesque, sublime, pastoral, authentic, threatening, adventurous, mystical, pure, etc. Different connotations are explored according to a particular point of view of an author and/or reader.

Several factors contributed to the representation of the landscape being the target of different approaches over time. Among them, a constant questioning regarding nature itself and the landscape. Because of an intense connection with nature, the landscape seems to have reached a status of timeless topic. The cultural connection between landscape and nature is so intense that it ends up resulting in a naturalisation process allowing the semiotic discourse of the “natural landscape” to be accepted without question at the level of visual culture. Now, this opposition between nature and culture, having already been questioned several times, leads us to easily understand that landscape is by no means a synonym for nature. What is at stake is a landscape that is, in a major part, culturally produced.

From figurative to the most abstract forms of representation, from the treatment of light to the representation of ideas, from direct observation to the representation of concepts, from verisimilitude to truth, from representation to performance, the landscape is still the target of a critical reflection maintained by the artistic universe where artists, further removed from the concern with faithful representation to what the eyes see, seem to find themselves in a process that grasps and treats the concept of landscape in confrontation with the virtual world, environmentalism, identity, gender, etc.

To better understand our topic, it is necessary to clarify what we are talking about when we use the term “landscape”. In this sense the authors differentiate four perspectives. First of all, the term can be used to refer to a point of view over a

fraction of a territory (landscape-view). Secondly, the term can mean a representation of a point of view over a territory (landscape-representation). Thirdly, the term can be used as a verb, “to landscape” (landscape-verb), and finally, the term can also be used to refer to a discipline that is dedicated to the study, in particular, of landscapes-representation (landscape-discipline). (Lorch, 2002)

Historically, the landscape as a discipline or branch of art is, as mentioned before, associated with an interest in studying representations associated with a point of view over nature. Placing this branch of art in the context of digital media-art implies underlining something that is related to the hybridisation of media present in the context of media-art and with its digital nature in digital media-art in particular. Therefore, we find artistic artefacts that are not only representations of views related to nature but also of social practices related to the active role of culture in the production of the landscape. We could argue that the representation of these social practices is also present in a classic landscape painting. However, in the context of digital media-art, the representation of the landscape seems to be somewhat expanded to other contexts (conceptual, plastic and technical), consciously, reflecting other interests than just those related to visual perception and nature. In this sense, these artefacts are often related to the issues of representation, study, perception and action (social practice), inherent to the concept of landscape.

The use of different media to communicate a certain message or create a certain experience is an important characteristic of digital media art. (Santaella, 2003; Giannetti, 2006) Until the emergence of avant-garde in the first half of the 20th century (Dada, Futurism, De Stijl, Constructivism, etc.), the theme of the landscape was related to several semiotic genres such as literature, cinema, painting and photography. When different media begin to be mixed in order to explore a certain concept, produce some particular aesthetic and plastic effect, etc., the landscape as a theme seems to have lost its momentum and, in this sense, some authors speak of the death of the landscape-representation when they talk about the death of painting. Strictly speaking, it seems that the theme has never stopped being worked on. It is certainly not explored with the intensity that we saw in the 19th century, but it turns out to be a theme present in several artistic works. Today, we see the landscape being thought and worked on in these artistic artefacts that mix sculpture, sound, digital images, electronics, algorithms, among other media.

In the context of this article, the authors seek to bring to the discussion a set of ten artefacts that fall within the context of digital media-art in order to better understand how these artists approach the concept. They serve as an example of how the landscape has been explored in contexts where digital media assumes itself as a tool and product in the construction, production and presentation of artistic work. With this in mind, in each of these works, the authors try to draw attention not to the technologies in particular or to the aesthetic exploration but to the way

they explore the landscape at a conceptual level. In particular, the authors seek to approach these works from a perspective of Visual Culture and Visual Semiotics.

The authors would like to emphasise that it is not a goal to look for the authors of the artworks intentions, the technical side of each piece or the aesthetic qualities, but, instead, to comment on the experiences that the artworks present to the audience, what they communicate and what we take from them conceptually in parallel with the landscape theory. The focus is in the landscape concept. How this concept is being explored and presented in the digital media art context.

Certainly there are various artistic installations that explore the concept of landscape. Those that were selected here are a small selection, a sample, taken from an immense set of works that could perfectly go through the same process and be present here. This sample serves the purpose of presenting the diversity of approaches taken by different artists and materialised using different media. Despite the fact that the role of digital media may vary in each of the works, the authors consider them all to be works that fall within the scope of digital media-art. The use of computers, digital media, algorithmic manipulation, interactivity, media hybridisation, etc., are all characteristics present in each of the works on this list. In this sense, the article turns out to be less about digital art itself and more about the landscape in this environment.

Lastly, this article is a revised and extended version of an article published previously in the proceedings of the 9th International Conference on Digital and Interactive Arts (Artech 2019), Braga, Portugal. (Cruz et al, 2019)

## **2. A SELECTION OF ARTWORKS**

### **2.1 The C5 Landscape Initiative**

AA. VV., The C5 Initiative (2001). “In 2001, C5 initiated a series of projects involving mapping, navigation and search of the landscape using GIS (Geographic Information Systems). The projects are designed to take place over 5 years and are an extension of C5’s exploration into data visualisation systems as art. The Landscape Initiative examines the changing conception of the Landscape as we move from the aesthetics of representation to those of information visualisation and interface.” (<http://www.c5corp.com/projects/landscape/>)

The C5 Landscape Initiative’s intent is that the artefacts examine and explore the concept of landscape in the passage between a landscape-representation embedded in the representative aesthetic questions and a landscape embedded in an aesthetics related with the information visualisation and interface. In this context four artefacts

were developed: (i) The Analogous Landscape: Rim of Fire; (ii) The Perfect View; (iii) The Other Path; (iv) The C5 GPS Media Player.

### 2.1.1 The Analogous Landscape: Rim of Fire

Through a group of expeditions made to twenty volcanic mountains in the Pacific Rim of Fire (California, EUA) this project's goal is to understand to which point is it possible to develop navigation techniques in other similar territories. After collecting data along the expeditions, it was important to explore if the way the tracks were made could be replicated in other similar environments. The data collected through GPS was afterwards modelled in three dimensions (3D). Besides these 3D models, hiperlinks were created between several media, like photographs and videos. In the end, all the data was presented through a computer graphical interface.

The part of a territory is, here, the landscape. Its exploration results in a set of trails, information collected along these trails, 3D models created and a graphical user interface that allows us to view and navigate through that information. This process has another objective related to the idea of replicating the experience in other places with similar geographical characteristics. This representation of the territory and the experience in itself are deeply related with a group of semiotic potentials<sup>1</sup> like exploration, cartography, mapping, domain and experience. These semiotic discourses<sup>2</sup> are more closely connected with the objectification of nature, transforming it into something accessible and even duplicating the experience in other territories. To make nature legible with the intension of replicating its experience is a common approach seen on artworks that explore the concept of landscape. This experience, seen as something gratifying and pleasurable, although it was not always that way, is constantly a target of analyses with the goal of making nature and experience accessible to others.

### 2.1.2 The Perfect View

The C5 group made a request to people that were using GPS in their recreational explorations: to indicate the coordinates of places that they consider to be sublime. Later, these coordinates served as a guide to a motorcycle expedition made by Jack Toolin, a member of the C5 group, through several north american states.

Jack traveled, documenting with photographs all these places, and contacted several people that submitted these geographical data. According to the group, during these visits, these people shared their enthusiasm regarding the discovery, the exploration and friendship shared between practitioners.

The concept of sublime was chosen because of its relation with the landscape theme in art, during the 19th century, during the industrial revolution, and the

nowadays interest in the exploration of the landscape in the contemporaneity. There is an interest in discovering what happened to a landscape where the sublime was a fundamental criteria in its construction and perception. Despite the focus of interest has moved to questions regarding the meaning and culture (in the context of post-modernism), the group defends that today an increasing interest regarding the sublime landscape is taking shape. The search for this concept ends up being a search for social codes and conventions that rule these sublime representations.

In this context, the landscape is a representation and a view. In this sense, the landscape is here closely related with questions regarding experience and travelling, made by all the people that identified the coordinates and Jack Toolin, and the way the territory looks. Experiencing the landscape in search for the sublime is, likewise, connected with semiotic potentials like adventure and exploration which, in turn, reinforces the idea of experience. In this sense, it is interesting to notice the idea of search. The journey on contrast with its goal.

From the social practice of exploring the territory the sublime landscape discourse is born. Although we can identify in this context another social practice equally important that relates intimately with the landscape concept: the travel. This, as a search for an ideal, is being made by Jack, on a motorcycle, and allows him to discover not only the sublime landscapes but also the individuals that define them. In this sense, the whole and the parts that define it are posted side-by-side and experienced with the same degree of importance.

### **2.1.3 The Other Path**

The goal of this project is to find an equivalent territory to the great wall of china, in topographical terms. In 2004, during one month, the C5 went through the wall from the northwest extreme, in direction to east, all the way to the yellow sea. Along this route several data related with twelve strategic waypoints were collected trough GPS with the intention of finding an equivalent route in California. To accomplish this task the data collected served to develop search procedures based on similar patterns.

At first they were interested in finding an equivalent location to the twelve waypoints and, secondly, using the API Landscape Database Application Interface, they started the search for routes between those waypoints that could resemble the ones made along the great wall of china. The virtual explorers (autonomous agents that are part of the API) were activated on the virtual Californian territory with the task of exploring and generating routes that would be later compared with the original ones made in China. The discovered routes that resembled more with the original ones were later introduced in GPS devices and were made physically by the C5 group.

This project shares many similarities with the installation *The Analogous Landscape*. Also here semiotic potentials arise related with the exploration of the territory, with its legibility and with the goal of replicating the landscape experience as part of a space. In the end, the project intimately explores questions regarding the domain and legibility of nature itself.

#### 2.1.4 The C5 GPS Media Player

The C5 GPS Media Player is an application that allows the visualisation and searching of the C5 Landscape Database. This database was being fed during all the project's execution with data from the GPS and digital images. It was important to create an interface that served the purpose of navigating this huge amount of data. Like so, the interface allows not only the navigation through the routes but also present these routes together with several other media connected with each one of them.

Besides this functionality, this application creates and presents a narrative to each one of the projects being, in this sense, a way of documenting the projects not only in terms of collected data and media but also in terms of its creation/production itself.

#### 2.1.5 Conclusion

Here, the landscape is approached, essentially, from two sides. On one, the aesthetic question related with what is presented to our senses, the sublime. On the other hand, the information embedded in the landscape, communicating several concepts, ready to be worked in terms of information visualisation.

The landscape is not only related with an aesthetic effect but is also a media that shares specific informations, ready to be replicated and presented. In this sense it is closely tied with Mitchell's (1994) theories in relation to the territory mapping and information visualisation. It is important to underline the way this project puts itself in the contemporary artistic production scene by exploring the picturesque and the sublime. Subverting the picturesque, looking for a codified message.

Lastly, the semiotic discourses of experience, exploration and domain of the landscape, are dominant and meet the interests of its authors by exploring the nature bringing to the surface data that allows a kind of equivalent simulation.

### 2.2 Fenlandia

Susan Collins, Fenlandia (2004). "The webcams were programmed to record images a pixel a second, so that a whole image was built up of individual pixels collected over 21.33 hours. Each image was collected from top to bottom and left to right in horizontal bands continuously. The work explores the relationship between

landscape, time and technology. It encodes the landscape over time, with different tonal horizontal bands recording fluctuations in light and movement throughout the day and with broad bands of black depicting nighttime. Stray pixels appear in the image where a bird, person, car or other unidentifiable object may have passed in front of the webcam as the pixel was captured.” (<http://www.susan-collins.net/fenlandia>)

These cameras placed in strategic spots define specific points of view over the territory. Nonetheless the material that will feed the generated images is not the territory in itself but landscape-views collect by the cameras. These landscape-views are, likewise, a representation of the landscape in several moments in time. The project’s interesting challenge is in the communication of this time variance of the landscape-view in a static image. Several different techniques could reach this result. For example, through the overlapping of frames, collage of pieces, mixing colours, etc. Susan Collins follows the option of juxtapose pieces collected from each frame. But, the piece that is retrieved from each frame is just one pixel. In the end, after producing the image composed by these pixels, a landscape-representation that represents a landscape-view in constant mutation, dynamic, composed by the several events that originated it, emerges.

This way, the art piece reflects about the landscape exploring its relation with time and technology. The landscape owes much of its existence and development, besides natural phenomenon, to the human activity and technological development and, consequently, what we call “natural landscape” is, in turn, a “cultural landscape”. Regarding technology, the landscape is a concept enformed by the way the individual perceives reality. Think about the window of a moving train, a car, a plane, the camera’s viewfinder, etc. All these devices shape what the individual acknowledges as being a landscape.

Through a static image that was built with pixel elements associated with different moments in time, these images represent a dynamic landscape that transforms itself. This landscape is affected by what is happening during time and, in this way, these moments in time are active agents in the manipulation of the space itself (a car that passes and appears in the image represented by just one pixel).

Several simultaneous discourses can be found in this artwork. The landscape is a view defined by a camera that records a particular segment of a territory. The images collected by the camera (landscape-view) serve as an input to a system that outputs static images, created in a very particular way. Although we can foresee here the landscape as a view discourse, this view is the sum of representations of several moments in time and, in this sense, the discourse of the landscape as history, as narrative, is here presented in each one of the pixels that compose the final image, putting in perspective the landscape as something static, as place and moment. In turn, It is the sum of several cultural moments in time. Consequently, this final image



that positions itself in the frontier that separates the figurative from the abstract, presents, curiously, this tension between nature and culture. Between a discourse that connects landscape with nature and another that points to the cultural construction of that nature. The moments, the events, those, are dissolved in the whole.

## **2.3 Tree**

Studio Simon Heijdens, *Tree* (2004). “Ripples on a puddle of water, footsteps in the sand and slowly gathering grime. Natural processes are existent though becoming rare in our increasingly planned surrounding. While the trees on the streets are no longer nature but carefully controlled and managed, the wind that is moving its branches still is. An installation that traces and amplifies the leftovers of nature in the urban surrounding.” (<http://www.simonheijdens.com/indexbig.php?type=project&name=Tree>)

Computer synthesised trees with eight meters tall were projected in several buildings. These trees move with more or less intensity according to the wind speed of the place where the projection is taking place.

These trees start to appear full of leafs. However, each time a person passes, the tree loses one of its leafs that, in its turn, will be huddled on the floor, near the projection, together with all others that have already fallen. These leafs, projected on the floor, with the passage of time, start to illuminate the place because of the increasing light intensity. When an individual passes in that area, these leafs move, reacting, in this way, to the air movement created by the moving person.

The urban controlled environment is becoming a place where the natural phenomenon is disappearing. This tension between cultura and nature is being explored in the sense that culture exerts a domain over nature. The author, in this reflection, explores this tension with the natural cause/effect process related with the wind action over the cultural elements (planted trees, kept, and culturally controlled).

We can underline a general tendency of the individual to dominate nature moving far away from its chaotic, random and mysterious character. In this artwork, a game of opposition between nature/culture is explored in which both can be characterised by caos/order, dynamic/static, good/bad, anarchic/ruled, etc., activating this way the nature/culture myth.

Nature, here, is being represented through a concrete over an abstract, the tree, and, through a cause/effect metonym, the author explores the relation between nature and culture in a constant game of oppositions with semiotic potentials related with the nature/culture myth. Each time a person passes by, a leaf falls and the other ones that are already in the floor react to the moving individual exploring, this way, the impact the individual has over nature by simply sharing the same space.

The artwork explores the issue that the urban landscape imposes itself on the natural landscape, often to the point of completely annulling it. In this context, the installation raises awareness to the dynamic presence of natural elements, such as the wind that affects a tree.

These projected trees are also affected by people passing by, losing their leaves. This behaviour can be read as a kind of metaphor for the cultural activity that imposes itself on the natural space and, on the other hand, sensitises people to the dynamic and sensitive behaviour characteristic of nature.

In the end, the natural element is something that is here at risk. It is added to the urban environment as part of the landscaping in a studied and controlled way. Once again, nature is something to control and dominate. The consequence that this installation shows is that the natural element loses its strength and becomes something delicate and fragile.

## **2.4 The Universal Texture**

Clement Valla, *The Universal Texture* (2012). “I collect Google Earth images. I discovered them by accident, these particularly strange snapshots, where the illusion of a seamless and accurate representation of the Earth’s surface seems to break down. I was Google Earth-ing, when I noticed that a striking number of buildings looked like they were upside down. I could tell there were two competing visual inputs here — the 3D model that formed the surface of the earth, and the mapping of the aerial photography; they didn’t match up. Depth cues in the aerial photographs, like shadows and lighting, were not aligning with the depth cues of the 3D model. The competing visual inputs I had noticed produced some exceptional imagery, and I began to find more and start a collection. At first, I thought they were glitches, or errors in the algorithm, but looking closer, I realised the situation was actually more interesting — these images are not glitches. They are the absolute logical result of the system. They are an edge condition—an anomaly within the system, a nonstandard, an outlier, even, but not an error.” (<http://clementvalla.com/work/the-universal-texture/>)

An interesting aspect regarding the work of Valla is this exploration of images that call the attention not to themselves, but to the software that created them. A glitch is an error and, according to the author, they are not glitches but logical results inherent to the program of origin. In this sense, the resulted landscape is not a product of a failure in the system but an unforeseen, unintended, result.

With this, the artwork doesn’t call the attention to the aerial landscapes created digitally, but to the mechanism that originated them. This attention relocates, precisely, because of an image that is a kind of “freak-image” making the reader to turn the attention to the process that created it.

The dominant landscape discourse in this installation is the landscape as the result of a system, composed by rules and codes that, in this case, produce unforeseen results that easily can be related with error by not meeting the expected results.

The Universal Texture is a proprietary system and intends to map all the terrestrial surface. Curiously, Valla brings to the surface the failures of the algorithm responsible for this great ambition. The landscape is composed by frontiers between places and the juxtaposing of these places implies the combination between these in a harmonious way intending a smooth and flawless match between places. The landscape, in here, is a kind of “patchwork blanket” in which the pieces doesn’t exactly match because the rules and codes that control the matching process are inadequate in dealing with the particular characteristics of each one of these spaces.

This artwork deals with the space and its representation and calls the attention to the systems that rule this process. All representation is a result of the application of semiotic codes. There are rules to draw, to paint, to carve a piece of marble. The same way, historically, landscape representation was always very rule-based. Although, an error in the application of the rule used to make the artist to correct in some way or even start over. Here, the artwork makes sense precisely because of the application of the rule. By doing it, it direct us to the representation system, the way our eyes are culturally programmed to produce and see things in a certain way.

A similar effect could be achieved if we think about a painter that exhibited a landscape painting alongside a video showing the process of creating it, calling the attention to the fact that it is not the thing but the representation of the thing. But, on this particular project, it is more than that. Exhibiting this puts the attention not just on this same aspect but also in the context of images that are intended to show the space as it really is. The mimesis should be extremely accurate to a point that there is no questioning.

In conclusion, the landscape, here, is intimately connected with the discourse of system and failure. Consequently, the installation explores the cultural aspects regarding representation (semiotic rules, codes and social conventions) in the practice of the landscape-representation.

## **2.5 Bitscapes**

Quayola, Bitscapes (2006). “Bitscapes is a multi-screen installation exploring and challenging the ambiguity of realism in the digital realm. Natural landscapes from the wilderness of western Australia slowly deconstruct. By losing their “photographic skin”, the illusion behind their realistic appearance is revealed.” (<https://vimeo.com/11765424>)

Bitscapes questions the objectivity associated with the realism of synthesised images. These are formed through a group of mathematical calculations and are

presented, in this particular situation, evolved by a hyper-realism that is later a target of an algorithmic manipulation. This manipulation emerges associated with a revealing process of the “true” nature of these images, questioning their value of truth, objectivity and authenticity.

While representation, the landscape is related with a way of seeing informed by certain aspects, in particular, technology itself. In the context of this installation the question that arises is, once again, an old one: the representation.

The mimicry and similarity are intimately related with truth and objectivity because of the relation with what our eyes perceive. The mimetic representation of the landscape is a representation informed by social rules and conventions that define a way of seeing and interpreting the world. Questioning the landscape-representation, in the context of this installation, is being carried by an algorithmic deconstruction that brings to the surface its rules and consequences represented through graphical distortions of the image.

It is not just the landscape-representation discourse that is at stake but also the truth and objectivity nature of those representations. For this, the author also explores the landscape-representation as a system, artefact and culture. The nature/culture and the real/imaginary are here presented in a constant game of oppositions with the intension to underline the fragility of the value of truth related with these representations created by technical equipments.

As said before, the discourse of the image as something that tricks the senses has a long tradition that takes us to Aristoteles and Plato. (Gubern, 2007; Joly, 1994) It is interesting to think the landscape-representation in these two perspectives. If, on one side, the author underlines an illusory landscape (the image tricks our senses), on the other, this landscape, revealing the underlying system, assumes a kind of an educational character related with that same system (the image has an educational function).

## **2.6 Boolean Nature**

Hugo Arcier, *Boolean Nature* (2008), “In computer-generated imagery, Boolean operations enable one to subtract, add or create an intersection between two objects. In this series Arcier has painstakingly constructed landscape scenes, upon which he applies spherical boolean subtractions. The resulting images are morbid representations of computational logic applied to nature. The works are completed through the production and sculptural realisation of the portion that has been subtracted from the virtual scene.” (<http://hugoarcier.com/en/nature-booleenne/>)

Arcier produced a set of computer synthesised landscape-representations, using 3D software. To each one of these 3D models, Arcier applied a boolean subtraction operation with a sphere. The results are renderings of models where the resulting

subtraction is clearly visible. Together with these images, using 3D printing technology, Arcier re-creates afterwards the part subtracted.

This way, in the bi-dimensional surface, we have the origin and, in the tri-dimensional, the result, the cause and the effect. The artefact underlines not only the cultural character of what is very often perceived as natural, but also pointing to the cultural practices that act upon nature in itself.

The 3D object produced, assumed as being a landscape, is an excerpt of a space appropriated through a subtraction process. The landscape is a fraction of that space which it is, by its own, a computational representation of the 3D virtual space. The landscape, in this way, if a fragment, a point of view, a part of a whole.

Several aspects are being here put in parallel. Through the rendering of the 3D model, the author presents a representation of a territory. This is a virtual territory, synthesised, a *simulacrum*, the origin of another thing that will be produced from itself. This space presents itself “amputated”. A consequence that comes from the process of creating the tridimensional object as a result of a boolean operation. Like so, this newly born tridimensional object is a landscape-representation that left a mark on the territory, more precisely, an absence. The bidimensional emerges in contrast with the tridimensional, the image with the object, the origin with the result, the effect with the cause, the manipulation with the product.

Lastly, and once again, we have an artwork exploring the tension between culture and nature. The author assumes here a clear position regarding this tension in the sense that culture is something violent and incisive. It acts upon nature cutting it in order to extract something. Almost an act of fetishism by removing and presenting a piece of the space for appreciation.

This myth of nature and culture is a constant approach in several artworks that use landscape as a main topic or as medium. Several factors justify this tendency. Although the landscape is not a synonym of nature and it is very far away from being something natural.

## **2.7 Untitled Landscape**

Leila Nadir e Cary Peppermint, *Untitled Landscape #5* (2009). “Commissioned in 2009 by the Whitney Museum of American Art as part of its inaugural Sunrise/Sunset net art series, in 2009, *untitled landscape #5* investigates the disruption of technologies by both human activity and natural phenomena. Fluctuating orbs of light disrupt the “digital landscape” of the Whitney Museum of American Art’s website.” (<http://www.ecoarttech.net/project/untitled-landscape-5/>)

The user, navigating through the website, suddenly, perceives an animation composed by a group of semi-transparent yellow circles that move on top of the website’s graphical interface. These circles intent to denote the sunset luminosity

over the space. The installation is part of a series of net artworks entitled “Sunrise/Sunset”. According to the authors, the artwork explores an interactivity between the human activity and the natural phenomenon where both interrupt each other mutually.

These lights are semiotic resources that intent to represent, metonymically, nature, the natural phenomenon and, with this, explore semiotic potentials like natural, pure, primitive and nostalgia. This discourse related with nature is very close to the myth of nature as something beautiful, healthy and pure.

On the other hand, the landscape where this sunset appears is the museum’s website. With this, the website transforms itself in a digital landscape, assuming the territory as something equivalent to the internet as a whole.

The cultural digital landscape interacts with the simulated natural elements. Although, here, this interaction presents itself as a tension between the two where the natural interrupts the cultural activity (the user browsing the website), by covering the interface.

The authors talk about a digital landscape, in cyberspace, being shaken in its function and aesthetics through a simulated intervention of a natural phenomenon. Nature and culture enter a conflict where technology is questioned through the intervention of the natural phenomenon.

We can trace some similarities between this approach and the installation *Tree* (2004), from the Studio Simon Heijdens, in the sense that both explore the natural phenomenon in a process of interaction with cultural practices. Although, in here, this natural phenomenon assumes a different power position in relation with the cultural activity. Here, it is something that blocks the user from accessing the website calling the attention to itself. In *Tree*, the leafs falling do not limit the pedestrians that are passing by in any way.

## **2.8 Sandbox e Hot Pool**

driessens & verstappen, *Sandbox* (2009). “*Sandbox* (2009) is a diorama in which a sand bed is continuously transformed by means of wind. This process is visible for the audience through a small window. In this machine two concrete materials, sand and wind, are the shaping elements. By locking up them up in a box an imaginary sight is created, a glimpse of a world where another climate prevails.” (<http://notnot.home.xs4all.nl/sandbox/sandbox.html>)

driessens & verstappen, *Hot Pool* (2010). “*Hot Pool* (2010) is a diorama in which a landscape of wax continuously transforms under the influence of melting and solidification phenomena. The installation is an autonomous generative system wherein candle wax and heat are the shaping elements. The ongoing - although very slow - process is visible for the audience through a small window.” (<http://notnot.home.xs4all.nl/hotpool/hotpool.html>)

Sandbox and Hot Pool explores the simulation of natural phenomena through an autonomous generative system. In this case, the landscape is being studied and explored in terms of the sublime, looking for to replicate the phenomena that shape and transforms itself. These artefacts underline the dynamic character, the constant mutation, of the natural space.

The first idea that emerges and defines clearly the point of view over the landscape is the discourse of the landscape-nature. Here, these landscapes are composed just by natural elements, although controlled algorithmically. The cultural elements are related with the manipulation of these natural phenomena like the changes in the wind and temperature.

Like so, the landscape is something equivalent to nature and the installations are a profound perception of this nature and all the processes that shape and transforms it.

While simulators, the artefacts explore two discourses that emerge in parallel. On one side, the exploration of the natural phenomenon, through simulation, takes us to the idea of making nature legible, controllable. The exploration of the process that transforms the territory denotes an intent to understand and present the natural phenomenon in a way that nature stops being something obscure and unknown to become something intelligible, explorable and manipulable. On the other side, and following the previous statement, nature is, like so, something that can be culturally explored and dominated.

An aspect that is worth to underline in these artefacts, related with the concept of the landscape as a verb (to landscape), is that the landscape is formed not only through natural phenomena, but also through cultural ones. It is dynamic, not only because the individual intervenes in the territory, shaping it definitively, but also because there is a whole set of natural forces that act upon it.

The objectification of nature is here being underlined by presenting a landscape where the system, the rules, are deconstructed and brought to the surface in this simulacrum.

## **2.9 The Deleted City**

Richard Vrijen, *The Deleted City* (2011). “The installation is an interactive visualisation of the 650 gigabyte Geocities backup made by the Archive Team on October 27, 2009. It depicts the file system as a city map, spatially arranging the different neighbourhoods and individual lots based on the number of files they contain.” (<http://deletedcity.net/>)

The installation has an archive of files (650GB), related with websites that used to be publicly available, as an input. All this information stored is here represented in a graphical interface allowing the user to browse through its diverse elements that constitutes itself. Metaphorically, this system of files is here identified as a

city. With boundaries and places well defined where each file presents itself as a building with a relation to the ones that surround it.

This “deleted city”, likewise, is a territory and navigating through this territory is to navigate through cultural landscapes (cityscapes) where the user can move through the orthogonal axis and can zoom in and out from a certain place.

This metaphor of the deleted city, being an informational space (urban landscape), underlines the fragile and ephemeral nature of the digital information in a direct relation with the same fragile and ephemeral nature of the landscape.

As mentioned before, the term landscape comes with several meanings. The discourse that connects landscape and nature is a dominant one although the concept is not just connected with the natural environment. Besides this, we are familiar with terms like soundscape, cityscape, waterscape, etc. All these designations appear to identify a certain kind of landscape. Independently of being related with the natural element, sound, cities, etc., the landscape emerges related to a discourse that characterizes it as something fragile, delicate, that deserves to be preserved and maintained, with a history and a memory.

The connection between landscape and heritage is very strong. We have around us several examples of landscapes that entered some kind of process in order to be preserved and maintained. They become cultural heritage. This practice of preserving cultural practices is being explored in this artwork and this metaphor of the “deleted city” puts in perspective the nature of these websites in terms of its value as cultural heritage.

## **2.10 Nature Trail**

Jason Bruges Studio, Nature Trail (2012). “The brief was to design and install a distraction artwork helping to create a calming yet engaging route that culminates in the patient’s arrival at the anaesthetic room. Inspiration came from the idea of viewing the patient journey as a ‘Nature Trail’, where the hospital walls become the natural canvas, with digital look out points that reveal the various ‘forest creatures’, including horses, deer, hedgehogs, birds and frogs, to the passerby.” (<http://www.jasonbruges.com/art/#/nature-trail/>)

The installation, presented in the walls of the hospital corridors, is composed by LED panels fixed behind a wallpaper allowing the visitors to see natural elements like trees and other vegetation. In the LED panels, placed along the walls, moving animals emerge behind this wallpaper.

The dominant semiotic potentials explored in this project are related with the calmness and serenity through the use of a semiotic discourse that identifies the landscape as something natural, friendly, generating good emotions and feelings. According to the authors, the idea came from a metaphorical relation made between



the patient path and the idea of “natural path”. Like so, confronting the patient with a calm, serene and primitive nature, they intended that the effect over the patient would be, equally, of calm and serenity. A route that is a natural and peaceful trip in a direct metaphorical comparison with what is being presented to the individual on those walls. Being presented as a natural process, the patient, in its turn, should accept it and give himself free of tensions to the process of treatment that will come.

It is curious to verify that all this is being worked in a hospital environment and, in this sense, the installation assumes a role and function in the nature/culture opposition. The installation works as a kind of filter where the calm and serenity of both (nature/culture) directly opposes the the frightening and dangerous character that both can also have.

In this context, the landscape emerges as a semiotic resource, a medium, serving a semiotic potential related with the exploration of connotations like calm, tranquility, serenity, etc. The landscape is composed natural elements and has the specific role of calming the children in his/her path to the cure. Like so, the myth of nature is activated by identifying it with all these connotations.

### **3. CONCLUSION**

In the context of digital/computational art several topics emerge that, according to Paul (2003), are mainly related with the media in itself. Meanwhile, not all these topic are exclusive to this media, nor does this media explore just these topics.

According to Paul (2003), some of the topics more closely related with the media in itself are: artificial life and intelligence; telepresence and tele-robotics; database aesthetics, mapping, and data visualisation; (net) activism and tactical media; gaming and narrative hypermedia environments; mobile and locative media; social networks; and visual worlds. The author underlines that topics like the body and identity also figure in digital art. There are others that can be added to the list. Like environmentalism and the landscape, natural or cultural. In this particular case, closely related with identity, tourism, environmentalism, genre, power, among others.

Nevertheless, in several cases, the landscape topic emerges related with the topics presented before. For example, with life and artificial intelligence in the context of the virtual landscapes; with the database aesthetics, mapping and data visualisation, when the representation of the landscape is being explored using topographical information; with virtual worlds when the landscape has a algorithmic nature connected, for example, with the artificial life and intelligence; with identity when the landscape appears connected to the touristic, environmental, genre and power questionings.

Not only these artworks shows that the landscape topic is being explored in the context of digital media art but also, and more interestingly, shows the way the topic itself is being explored. In that sense, landscape was being approached through times from different perspectives normally connected with a particular point of view regarding not only nature but culture itself. In the context of digital media art, the landscape is approached from points of view that, once again, reflect a contemporary view on nature and culture. Nonetheless major semiotic discourses that are being explored have deep roots in the past. Landscape as nature, representation and system are some of those discourses. But, interestingly, they are approached and adapted to nowadays, exploring the contemporary cultural social needs and goals.

Lastly, it is worth mentioning, after presenting all these artworks, that the tension between culture and nature is a dominante topic that continues to be explored by the artists. This tension, connected to its myth, reletes our views, emotions and feelings, towards not only nature itself but to ourselves particularly. Questioning the relationship between nature and culture, understanding it in some way, is something fundamental in understanding the landscape. It is a consequence, a result, of this timeless relationship.

## **REFERENCES**

- Andrews, M. (1999). *Landscape and Western Art*. New York: Oxford University Press Inc.
- Cruz, T., Paulino, F., & Tavares, M. (2019). The Landscape in Digital Media Art: A Selection of Artworks. In *Proceedings of Artech 2019, 9th International Conference on Digital and Interactive Arts* (Artech 2019). <https://doi.org/10.1145/3359852.3359896>
- Flusser, V. (1998). *Ensaio sobre a fotografia: para uma filosofia da técnica*. Lisboa: Relógio d'Água.
- Giannetti, C. (2006). *Estética digital: Sintopia da arte, a ciência e a tecnologia*. Belo Horizonte: C/Arte.
- Gubern, R. (2007). *Del bisonte a la realidad virtual*. Barcelona: Editorial Anagrama.
- Joly, M. (1994). *Introdução à Análise da Imagem*. Lisboa: Edições 70.
- Leeuwen, T. (2005). *Introducing Social Semiotics*. New York: Routledge.
- Lorch, B. (2002). *Landscape*. Retrieved from <https://lucian.uchicago.edu/blogs/mediatheory/keywords/landscape/>
- Mirzoeff, N. (2009). *An Introduction to Visual Culture*. Routledge.

Mitchell, W. J. T. (1994). Imperial Landscape. In W. J. Mitchell (Ed.), *Landscape and Power*. University of Chicago Press.

Olwig, K. R. (1996). Recovering the Substantive Nature of Landscape. *Annals of the Association of American Geographers*, 86(4), 630–653. doi:10.1111/j.1467-8306.1996.tb01770.x

Paul, C. (2003). *Digital Art*. London: Thames & Hudson Ltd.

Santaella, L. (2003). *Culturas e Artes do Pós-Humano*. São Paulo: PAULUS.

Sturken, M., & Cartwright, L. (2009). *Practices of Looking: An Introduction to Visual Culture*. Oxford University Press.

## ENDNOTES

<sup>1</sup> According to Leeuwen (2005), semiotic resources are actions and/or artefacts that the individual uses to communicate. They are everything used - or can be used - by the individual to communicate, to produce meaning, in a certain space-time context. The author develops the idea saying that all semiotic resources have a semiotic potential. Likewise, for example, the colour red is a semiotic resource that can be used to communicate different semiotic potentials like death, luxury, danger, vitality, etc. This semiotic potential will be set according to the individual (producer and reader) culture and context that the resource is being used.

<sup>2</sup> Semiotic potentials are deeply connected with semiotic discourses related with the way the message is being conveyed. Taking the same example, the colour red as a resource to communicate danger is a semiotic discourse with roots in the past where, arbitrarily or conventionally, this colour had a connection with danger. Along time, using the resource in this sense, the discourse emerges and naturalizes the connection between red and danger. (Leeuwen, 2005)


## Chapter 4

# Websites as Spaces for Building the Identities of Political Parties

**Adriane Figueirola Buarque de Holanda**

*School of Higher Education in Advertising and Marketing, Brazil*

**Cynthia H. W. Corrêa**

 <https://orcid.org/0000-0002-9552-9235>  
*University of São Paulo, Brazil*

### ABSTRACT

*Initially, studies on policy and the internet considered websites as spaces for the propagation of political and electoral marketing. However, this proposal presents a different perspective regarding the internet as a space for building the identity of political parties with their diverse audiences: cross-party and intra-party. The chapter is divided into three parts: the first deals with politics and the internet focusing on the theory of equalization and normalization to match the political game between major and minor parties. Thus, to understand the organizational structure of the parties, the theory of the parties of cadres and masses is offered. Also, to deepen this discussion, the selective and collective incentives that are part of the genetics of political parties are treated. As the results, the website serves as an instrument of communication of the party, divulging the objectives, the internal disputes between the different factions, and the way the party works.*

DOI: 10.4018/978-1-5225-8024-9.ch004

## **INTRODUCTION**

Research on parties' websites is relatively new. The earliest published work on the subject dates to the mid-1990s, and since then a considerable volume of scientific books and articles has been published on the subject around the world. Originally developed in the United States and the United Kingdom (UK), research on political parties' websites has been conducted in different countries on several continents. For instance, continental Europe (France, Italy, Germany, and Norway), Oceania (New Zealand and Australia), America (Canada), and in South America (Brazil).

In contrast to the diversity of contexts applied, research on political parties' websites is characterized by the significant stability concerning its research agenda. Roughly speaking, two issues have dominated research on the subject. The first refers to the supposed potential of the Internet to promote greater equality of political communication opportunities between large and small political parties. Two rival hypotheses are presented here: The first, about the equalization of opportunities, points to a positive impact of the Internet regarding the homogenization of the conditions of competition by large and small parties. The normalization hypothesis, on the other hand, suggests that the Internet does not play a noteworthy role in this respect. The question here concerns the potential for democratization of the internal life of parties by allowing members and ordinary citizens to participate more actively in party affairs through their websites.

With these issues in mind, this chapter has as the central purpose to present, critically, the state of the art of research on political parties' websites. It is intended to demonstrate that both the works that investigate the effect of equalization of opportunities between the different parties and those that investigate the possible democratization of the internal relations in the parties tend to focus mainly the websites as fundamental elements of the analysis. Thus, prevails the detriment of the parties themselves, when the websites are assimilated as a strategy of political propaganda and as a tool for electoral marketing. This perspective has two primary drawbacks nowadays. First, the nature of the Internet has changed significantly since the mid-1990s. At that time, websites were the last word in Internet resources; currently, the sites coexist with other resources with much greater appeal and impact with users, as blogs and social networks. It is reasonable to suppose, therefore, that the models drawn up on the Internet fifteen years ago are considerably dated about the impact of websites on parties' management. Second, this perspective says very little about the structure of the parties, understood as organizations with political goals that go beyond communicating with their members, constituents, or the public.

Grounded on that, this chapter aims to debate the Internet as a space for the construction of the identity of political parties with their different publics: Cross-party and intra-party. The premise is that the website offers excellent points of

observation and resources applied by political agents for disputes. As the panorama on research on the Internet and politics theme is relatively circumscribed, the review of previous studies encouraged the search for a new way of investigation, questioning: Do political parties use websites as a space for party organization?

The methodology is based on a literature review with emphasis on the presence of political parties on the Internet. The first part considers the theories related to cross-party competition, considering the hypothesis of equalization and normalization. The second part gives an account of theories of analysis the construction of party political and of the distribution of collective and selective incentives.

## **CROSS-PARTY COMPETITION: WILL THE INTERNET MATCH THE POLITICAL GAME?**

The issues related to cross-party competition dominates the field and are present in the studies to this day. Three groups of researchers open this debate. The first group, formed by Margolis et al. (1997), discussed the use of the Internet in the 1996 United States election campaign. The second group, formed by Gibson and Ward (1998), investigated how the UK parties were using the Internet as a new medium. The two groups of researchers came together to develop a comparative research to show the differences and similarities between the United States and the UK in the use of the Internet for political strategies.

From these pioneering surveys, from the mid-1990's to 2010, there were no significant variations in the agenda of research on political and Internet. In general, the debate of cross-party competition on political parties' website points to more revolutionary expectations seeing the potential of the Internet. In this scenario, the Internet access is no longer restricted, exclusively for researchers and universities, considered elitist until this moment, and is now commercialized. However, the experiment would be significantly modified for commercial use.

The text by Margolis et al. (1997) inaugurates the elaboration of a discussion agenda that remains current. The modifications presented by these authors relativize the debate of the other reflections that will be analyzed later. The authors begin with an emphasis on a new environment for political discussions.

*Once upon a time, not so very long, there was a place called cyberspace. In contrast to the real world, cyberspace features an old bunch of inhabitants. They had disproportionately higher incomes and education than the average citizen, and they tended to be younger and more technologically sophisticated than their compatriots (Margolis et al., 1997, p. 60).*

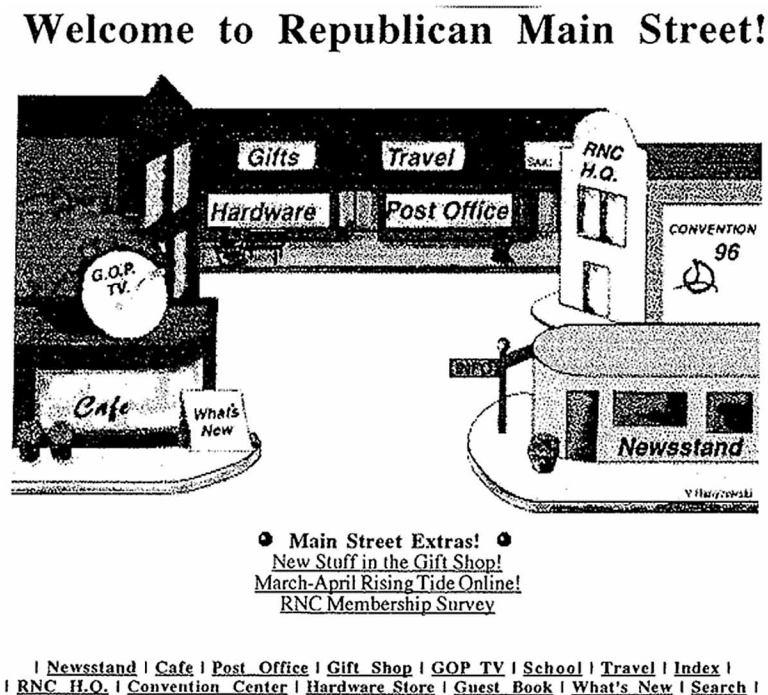
The relationship of cyberspace to the political environment would facilitate democratic participation. For example, Lévy (1999) draws the following argument:

*(The) connection of the computers of the planet and devices of communication at the same time collective and interactive is not an infrastructure: It is a way to use the existing infrastructures and to exploit its resources through a distributed and incessant that is inseparably social and technical (Lévy, 1999, p. 193).*

For the author, the main point of cyberspace is not the consumption of information and the interactive services, but the procedural participation of collective intelligence, considering that the user participates in both the production process and the distribution of information. In a political campaign, through cyberspace, an opportunity is created for the voter to engage in the party's political discussions. Figure 1 illustrates one of the first examples of Internet use by political parties.

*Figure 1. Website of the Republican Party (United States)*

*Source: Margolis et al. (1997b)*



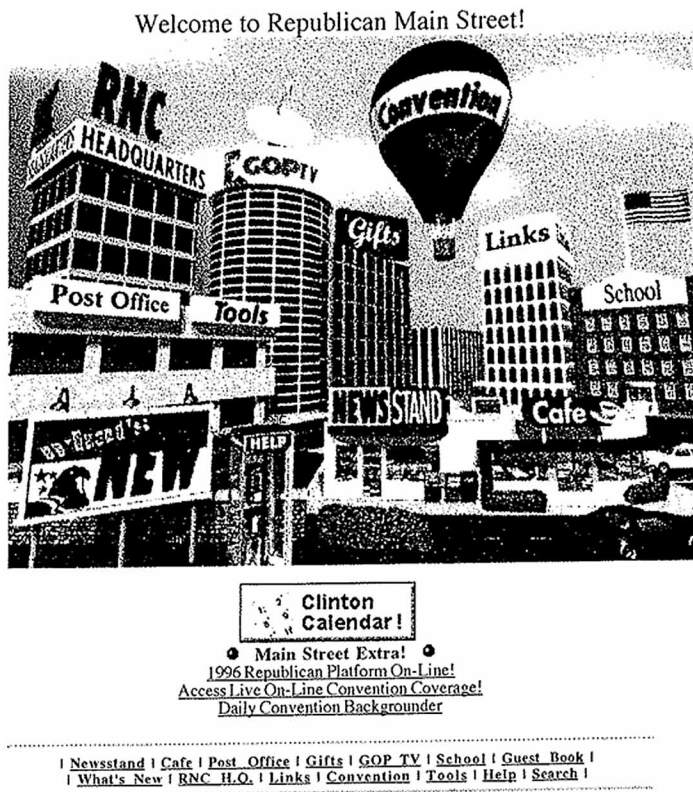
## **Websites as Spaces for Building the Identities of Political Parties**

About the Figure 1, a question is raised by the authors: “Will the Internet provide the means for electoral politics to assume a more democratic character as CMC [computer-mediated communication] reduces the organizational costs of political participation?” (Margolis et al., 1997b, p. 64). The research shows that there will be no specific electoral strategy for cyberspace; what will happen will be a reproduction of the real world. In this sense, the political campaigns on the Internet grow mainly as a tool to support traditional campaigns (television, radio, and melee).

In Figure 2, it is possible to observe that the links are the resources responsible for mediating the Republican Party with its various publics (journalists, sympathizers, and party members). On this site, the voter has access to the platform and the party convention, thus allowing the citizen to know the organizational structure of the party.

*Figure 2. Website of the Republican Party (United States)*

*Source: Margolis et al. (1997b)*





When the hot topic is the party website, a problem arises: Will the Internet bring the opportunity to match minority parties with political communication? To answer this questioning, researchers use the hypotheses of equalization and normalization.

The origin of the equalization hypothesis refers to the beginning of the Internet when researchers and members of academic communities primarily adopt it. When the discourse on the Internet media was somewhat utopian, many expectations raised, and it was hoped that this media would become an excellent forum for debates. The Internet, at that time, was responsible for a new model of behavior, both in the social and in the political fields.

Early research on the subject showed that the Internet could not replicate real-world political norms as expected; there would be limited in this reproduction mainly because it is a very segmented medium. This could be identified in the research conducted by Margolis et al. (1997a) in the 1996 American presidential elections. For the authors, as the Internet became popular, political issues in the digital environment become like those of the real world.

These reflections have made Resnick (1998) presents the hypothesis of normalization concerning the political issues of cyberspace. Following the proposal, Margolis et al. (1999) designated three implications related to the hypothesis of normalization. They are: 1) The parties would have a substantial presence on the Internet, however, significant parties would employ more sophisticated techniques, since they have more financial resources. 2) Minority parties will acquire more visibility in cyberspace than in other media; even so, the main parties, by employing more sophisticated techniques, will stand out. 3) The parties will seek through the Internet to recruit new members, creating a strategy of communication with the party activists and making available the platform of government and the candidacies of the politicians.

Gibson and Ward (1998) drew on the research of Margolis et al. (1999) and developed an investigation into the use of the Internet by British parties. The research was described in three parts: 1) The impact of the Web on parties' competition. 2) The potential of the Internet to win new voters. 3) Party democracy, in which party members can bring their visions to the party's national elites. The research of Gibson and Ward (1998) validates the hypothesis of equalization because in the UK smaller parties balance the political game in the same way as the larger parties. Though, the analysis has shown that parties do little to exploit the Internet as a tool for debate, not encouraging feedback between the party and the voter.

The results obtained by the different groups of researchers are not similar, but they are not contradictory either. It is also important to note that the groups came together to conduct a comparative research in the 2000 United States presidential elections and in the 2001 British general elections. From these investigations, other studies originated to evaluate the hypotheses of equalization and normalization

in the most diverse countries. Now, it includes the studies on the parties in Italy (Newell, 2001; Vaccari, 2008), New Zealand (Conway, Donner, 2004), Germany (Schweitzer, 2005), Canada (Small, 2008), Brazil (Braga, França, Nicolás, 2009); in South Korea (Hague, Uhm, 2003), France (Lilleker, Malagón, 2010), and so on.

Ward, Gibson, and Nixon (2003) showed some resemblances to previous research. The focus permeates the website object with the function of administering campaigns (tool for the user to know the politics of the party), participation and internal organization (through newsletters, e-mails, and chat rooms). In this case, the website is seen as a library, a place to archive political information, allowing journalists, researchers, students and civil society get information about its political history. The sites allow the distribution of data and material that does not are exposed in the mass media. For instance, in the United States, websites are a place to encourage donations for party campaigns.

The Internet is increasingly collaborating in the professionalization and modernization of electoral campaigns, even though television has greater significance in political communication. Roughly speaking, the authors' discussion refers to the chance of ordinary citizens being able to participate in the campaign agenda, mainly through the possibility of feedback between voters and candidates. Digital communication tools greatly facilitate mediation, unlike traditional media. Nevertheless, does this new environment bring results, since a large part of the electorate is not in the habit of using the Internet for collecting political information? Although there is interaction in the new media, debates, and discussions are more transparent in traditional media, as well as in close contact with the electorate.

What is interesting about the proposal of equalization is the visibility that small and marginal parties start to have, since the media is low cost and does not depend on traditional media publishing. On the other hand, the authors affirm that the equalization can be replaced by the normalization, as noteworthy parties provide more advanced resources for the sophistication of their sites. Even so, small parties are enthusiastic about the birth of this new instrument of communication. For example, in both the United States and Europe, marginal parties are benefiting regarding mobilization and party organization via websites.

In the thesis presented by Vaccari (2008), during the 2006 Italian elections, the websites of the major parties were more sophisticated and developed with more resources than minority parties. The research emphasizes an absence of the equalization hypothesis, since the obtained results are equal to the theory described by Resnick (1998) based on the hypothesis of normalization. In turn, Newell (2001) shows dissimilar results. His research assumes that the Web allows small parties to have visibility. In the opinion of the author, the small parties are growing the most in the network (which proves the hypothesis of the equalization), since the traditional

media do not recognize these. Accordingly, small parties use the Web as a place of debate between them and the citizen.

In this case, the network authorizes the equal competition between large, small and marginal parties, even though the majority parties provide more financial resources, consequently develop sophisticated websites. This argument leads one to believe that participatory potential can be exploited independently of technological sophistication. The Italian parties' sites present equivalent characteristics of their structure, such as party history, values and ideology, politics, documents, releases and speeches, biography and statistics of the elections. This information is explored on all websites independently of the size of the political party. The difference between small parties' sites versus large ones is technological sophistication. One premise found in this discussion is the usage of the sites to provide information, not to mobilize voter participation in the political debate (Newell, 2001; Cardoso, 2008).

Continuing his studies on Italian parties, Cardoso (2008) identified some elements like those found in the investigations of Newell (2001) and Vacarri (2008), especially about the possibility of standardization. For the author, the websites of fragile parties have less sophistication than significant parties, since for them "it is a craft communication" (Cardoso, 2008, p. 198).

Other academics complement this discussion, such as Margolis et al. (2003), which showed the contrast of the Internet concerning the mass media. They argue that computer-mediated communication enables democratic participation to occur. The Internet provides a new public space: *A digital agora*, but for this to be accomplished, it needs to be a redefinition of the party policies. Research results have shown that smaller parties in the United States, unlike larger parties (Democrats and Republicans) use their sites to mobilize affiliates and sympathizers. On the other hand, the Democrats and Republican parties obtained a higher number of visits on their websites. From the outcomes, the authors pointed to a normalization of the cyberspace competition.

In South Korea, normalization issues are discussed, and larger parties' sites apply offline features such as the broadcasting system, games, and other entertainment tools to attract the younger population, since few people use the Internet to access information. The research indicates that, first, the Internet is adopted for entertainment, later for investment and business, and finally, a small portion is used for political purposes (Hague, Uhm, 2003).

Southern European parties have another bias in this debate. Researchers analyzing countries such as Portugal, Italy, Spain, and Greece highlighted that they have barely explored the participatory potential provided by the networked communication. Internet usage seems restricted to recruiting votes; offer party documents and mobilize messaging tools between party members and civil society. In these studies, some similarities with Gibson and Ward's proposal were found, such as the question of

normalization with significant parties' sites. However, a critique of normalization and equalization is added. Gibson and Ward (2003) sin when they do not include the recruitment element as a strategy of online campaigns. One of the elements discussed is that parties' websites should explore the discussion and engage the citizen in the political affairs of the respective countries.

Italy and Spain emphasize participation through the website. The goal is to get the citizen involved with public policies. Concerning the Internet use, it was observed that in Spain and Portugal there is a lower percentage in the application of the Internet for political issues. In turn, Italy and Greece have much higher access.

The agenda has shown a growth of political campaigns in cyberspace. Though, television has still been dominant in electoral periods. On the Internet, the campaign has the possibility of involving an apathetic electorate, since the core of this media is in the construction of relationships, promoting a personalized contact (one-to-one), unlike the mass media, since it has strategies to get closer to the voters. On the other hand, Newell (2001), Conway and Dorner (2004) postulate that the sites have a low citizen participation rate, due to the little incidence of direct participation tools. The authors concluded that parties' websites are used to transmit information quickly and widely, but it is not exploited as a space for political discussion or as a place to recruit voters.

In the 2000 elections in Germany, the parties applied the sites to get closer to the electorate. Schweitzer (2005) found no differences in the way small and large parties appropriated the Internet (such a conclusion would point to an equalization). At that time, the use of the Internet for election campaigns was still quite limited; there was only an adaptation of the offline material (which be a normalization element).

Small (2008), in turn, raises the following interrogation regarding the equalization hypothesis: Would the Internet be having an equalizing effect on Canadian political parties? When one considers the 2004 Canadian elections, the answer is no. Since comparisons were made between the majority and minority parties, it was possible to perceive that larger parties provide more information, cling to visual appeal and entertainment resources, which is in line with the hypothesis of normalization. Smaller parties, on the other hand, use websites as electronic brochures.

In Brazil, Braga, França e Nicolás (2009) presented a study on the websites of Brazilian parties bearing in mind the relation of participatory democracy made possible by the Internet. The investigation showed an absence of the normalization hypothesis, since the websites of the smaller parties, by means of Communist Party of Brasil, have better resources than the larger parties like Party of Brazilian Social Democracy, Works Party, and Popular Socialist Party.

In France, parties' websites offered different styles of political campaigns. In general, technological tools allow voters to participate and interact with the party and the candidate during campaigns. Interactivity is not only a function of technology,

but rather a skill of interacting the site through the hyperlink. In the 2007 presidential election, Nicolas Sarkozy's website has developed a user-to-user interaction feature, a place of public debate between citizen and candidate. Thinking about sophistication is part of the strategy of the major parties since they have the financial resources to develop sites with the most advanced technologies. The analysis of Lilleker and Malagón (2010) shows that the hypothesis of equalization, mainly with the frantic progress of technology, will be replaced by the hypothesis of normalization. Smaller parties, even having the same space, do not have the financial resources to enjoy the same level of technology.

Karlsen (2010), in his analysis of the website of the Norwegian parties, showed that supporters of the leftist socialist party collaborate to develop the party's website. Already the labor party made use of the professionals of the own party to create and to produce the site. From this point, one can conclude that the equalization hypothesis is replaced by the normalization since the sites of great parties bet on professionals who work with sophisticated techniques. The leftist parties, up to the time of Karlsen's research, did not have the habit of hiring employees specialized in information and communication technologies.

From all the above, the reports presented employ the assumptions of Gibson and Ward (2000). Nonetheless, the Internet affects the political parties distinctly in each of the countries cited. The websites fulfill five essential functions: 1) To convey information. 2) Act as a campaign tool. 3) Generate resources. 4) Create and strengthen internal and external links. 5) To promote the participation of users in political processes. Does the party operate the website for these purposes? One possibility to answer that is via the analysis of the flows of information and communication. The flow from top to bottom, that is, from the party to the user, relates to the following items: Party history, candidates, and documents referred to ideology and values (Newell, 2001; Cardoso, 2008). The second information flow, from the bottom to up or from the user to the party, is related to elements as financial donations and the purchase of goods. A third flow also embraced lateral flows, which denote to internal reference links. Interactivity is another element of the sites, which can be asynchronous (e-mail, party affiliation) and synchronous (chat room and online forum).

Other criteria related to appearance and presentation have also worked on parties' websites. Among them, there is the accessibility (the access to a more substantial content); the navigability (ease to move within the website, search tool and sitemap facilitate the location); the update (the site must continually renew the content); responsiveness (response to requests for information); and visibility (the user's capacity to find what they are looking for). The texts that analyze how the parties make use of these criteria are grounded on the principle "more is better", when it defends that the more information and technological resources the party offers, the

more noticeable it will be. Nevertheless, this thinking goes against the notion of a communicative efficacy, as it does not obey the design and information architecture standards at the time of scheming a website. The methodology described does not display what each party website considers during its planning. Henceforth, a specific goal about the use of the site is to be a means of communication.

## **DEMOCRATIZATION OF INFORMATION IN CYBERSPACE AND INTRA-PARTY COMPETITION**

An essential reference established on the Internet and political studies is the idea of intra-party democracy, that is, the forms employed to involve the citizen in the political debate through the global computer network. The investigations are outspread in two moments: 1) The democratizing potential of the Internet, accentuating the participation of the ordinary citizen with the party. 2) The distribution of power within the party segments.

In this setting, two researchers deserve special mention, Norris (2000) and Blanchard (2006). The first draws a discussion about the democratizing potential of political parties' sites, while the second author presents a study on the citizen speech. Besides, other examinations were applied to support the reflections on the democratization of information through the websites. For some authors, the Internet is seen as a communication space for all parties (hypothesis of equalization) or as a place that gives prominence to parties with more financial resources (normalization hypothesis). In turn, Norris (2000) elaborates a different hypothesis called the *media malaise*, in which it presents a correlation between media consumption, political participation, and trust in government. Her basis of analysis are the websites of 134 parties from 15 European Union countries. The author proposes that: 1) Parties' websites have a top-down structure, underlining information, persuasion, and mobilization. 2) Also, they present the structure from the bottom to up, and in a very restricted way give opportunity for feedback to happen about an internal debate on the proposals of the party. 3) Not all users participate in the discussion.

Blanchard's (2006) research focuses on how parties incorporate the citizen speech, the way the average citizen uses the Internet to participate in the party. Norris (2000) has the equal line of reasoning and considers the form of interaction projected by the website somewhat scarce. In this sense, e-mail, although limited, is the tool most utilized to establish contact between party and citizen.

Still, in this perception, it is interesting to include another group of scholars that debate party website from the role of the participant linkage (Pedersen, Saglie, 2005). The discussion revolves around the problem of mediation between the party elite and the voters since the party's internal channels are not efficient in transmitting

information. Moreover, the messages broadcast by the media, for the most part, have nothing to do with the party's interests. Thus, the site should act as a linkage between the party and the voters. From this idea, questioning is part of the authors' research: "What would happen if electronic participation replaced the traditional activities of the parties?" (Pedersen, Saglie, 2005, p. 362). The answers are divided into two options: 1) The possibility of democratization of increasing the power of party members. 2) The increase of the elite power.

The linkage is equally a subject commented by Löfgren and Smith (2003) to analyze the practice of partisan democracy. This term is quite traditional in liberal politics and consists of a political mechanism responsible for connecting voters to the party. The authors set out to highlight the linkage between people and government in a digital democracy. The linkage can be divided into four types: 1) Participatory. 2) Representative. 3) Clientelist. 4) Directive. Two of these types deserve clarification: The participatory one, which refers to mass parties, and the representative one, which makes a connection with the parties of cadres. In short, the authors reflect on the repositioning of democratic practice, including in this thinking issues related to networked communities as a strategy of interactivity and decentralization.

Gibson and Ward (2003) do not believe in the potential of the Internet as a tool for the democratization of information. In analyzing the Australian parties, they found some attempts to promote an internal democracy: 1) On internal issues - the intranet, a communication tool among leaders, officials, and activists. 2) On external issues - e-mail and the Web. As some communication devices that enable the dissemination of information, interactivity, network, and forums. The internal and external areas have applications with the internal power of the party. However, the standard potential depends on the technology adopted for party feedback.

Following the examination, in the 2000 Mexican elections, even with low access, the Internet facilitated the presence of small parties online (equalization). In these elections, the digital environment made possible the interaction between voters and parties (Willis, 2003). Although this means providing a contact between the citizen and the party, only a restrict portion of the population makes use for political purposes. For Morgan et al. (2003), on the Internet, the democratization of information is decentralized, since not everyone receives attention.

In Villalba's view (2003), communication and information technologies have changed the mediation shape of political themes. According to the results pointed out, it was identified that the elite is the one that gives more attention to the Internet. It should be considered that parties' websites are still in the initial stages of learning. On the Internet, intra-party competition happens in the context of the intranet; a place reserved for party members. The forms of interaction with the public are done through tools such as ICQ (an instant messaging computer program, FAQ (frequently

asked questions), and e-mail. The first is a little-used interactive tool nowadays because new platforms like Facebook, Google Talk, and Skype have replaced it.

Resuming the framework produced by Norris (2000), the change of the campaigns is a revolutionary form of modernization assumed from the strategies of interpersonal communication between the candidates and the party. Since premodern campaigns depended on the party press as a source of mediation between the citizen and the party. When it modernizes chiefly through the television medium, the election becomes mostly passive, as it does not approach the candidate's voter. Indeed, the voter detaches from the process. This phase is still marked by the professionalization of the campaigns, which are now thought and controlled by marketing, advertising and journalism professionals. At that moment, the campaigns begin to be postmodern; the channels of communication support the interaction between the politician and the voter. Also, the Internet is characterized by the primary means of communication. Even so, Norris (2000) points out that the use of the Internet in campaigns is still low, especially in the countries of Southern Europe.

When analyzing parties' websites, Norris (2000) brings to the scenery aspects as participation and pluralism. For the author, the interaction between citizens and parties happens as follows: 1) Personal interaction (face to face). 2) Printed matter (flyers, newspapers, and magazines). 3) Broadcasting (radio and television). These media are responsible for the modernization of campaigns. Unlike these channels, the Internet, more precisely the websites, gives visibility to small parties, being a channel of participation, of dialogue for those parties that do not have the resources to bet on traditional media. In the United States, the site is utilized as a tool to win votes, although it has other functions, such as mobilizing voters for the campaign, financial donations, and the promotion of political debate. From that perspective, the websites have contributed to the pluralization of the campaigns. Despite these advances, the author agrees that there is a difficulty of equalization between small and large parties since majority parties naturally have more financial resources to invest in sophistication.

The democratization of information is treated by Margolis et al. (1997) to address the participatory democracy employed by smaller parties to mobilize affiliates and sympathizers. The research by Gibson and Ward (2003), however, disagrees with this notion about the democratizing potential of the Internet.

Based on these investigations, the existence of a sparse participatory democracy is observed. Tools that grant voter participation and political debate between them, candidates and parties, as e-mail, are still used in a somewhat limited way. It should also be mentioned that research is obsolete about the technological advance. Devices as e-mail, websites, ICQ, FAQ, and forums are substituted by more modern tools like YouTube, Twitter, Facebook. Essentially, the focus of recent investigations emphasizes on how the candidates in election periods appropriate digital media as a



space for dialogue with their constituencies. The actions of Barack Obama's campaign brought many contributions to social media research as an example of civil society participation. Twitter, YouTube and 16 other social networks, including the social network created named My Barack Obama campaign, where collaborative strategies designed to engage the voter in the campaign. The processes were not only thought of in the collaborative model, but according to the voters need, since in the United States, the focus is not only on winning the vote, the idea is also on encouraging voters to attend the ballot box (Gomes, 2009).

Even with these advanced techniques, citizens are not representative of partisan political participation as would be expected. Like the case shown in the analyzes of Villalba (2003) because the access to the sites is still very elitist, this is not only in France; it is a characteristic found in several localities. More recent research points out that social networks can be a more representative space for citizens with their parties: Social networks are essential setups for political debate, candidates and voters establish connections through various platforms, such as Facebook, Instagram, Twitter, and YouTube. During the 2014 elections in Brazil, the public agency created a fact-checking platform called Truco, with the purpose of verifying the political discourse in the elections. The proposal was to foment the debate when the voters asked questions using as reference the free schedule of election propaganda (Luíse, Segurado, 2017). The primary objective of the project was to assist in the citizen construction of the voters. According to Coleman (2018), social networks have opened space for the citizen to dialogue with both journalists and political actors. Currently, "all politicians agree that now they must rule with, and over the Internet, few are clear about how doing it." (Coleman, 2018, p. 11). At the outset of the Internet, citizens did not have so much room for political debate, and space was limited to parties' websites, which have a more institutional role than to establish a direct communication with the citizen.

## **POLITICAL PARTIES' WEBSITES: THE ORGANIZATIONAL PRISM AND THE CONSTRUCTION OF THE IDENTITY**

The panorama around the topic on the websites of political parties under an organizational perspective requires a more careful contemplation on how political parties structure themselves as organizations. In this regard, a vigorous tradition of research has been developing for more than a hundred years in the field of political science. Three authors are essential to the debate: Michels (1982), Duverger (1957), and Panebianco (2005). In this part, it will consider the contribution of each of these authors, before moving on to more recent contributions that help to clarify some

of the issues related to the adoption of websites to political parties understood as organizations.

According to Duverger (1957), the parties created by parliamentarians are less centralized than parties created by labor. The party formed by workers is more coherent and more disciplined because it is formed by organizations that already present a primary cell of a formation. Besides, conquering parliamentary chair is not the key objective of this type of party, the electoral and parliamentary struggle is the fundamental characteristic of this type of party. On the other hand, the party of parliamentarians is influenced by the group of deputies who play an indispensable role within the party even because they are part of the ruling elite. The chief objective of the party is the conquest of parliamentary seats. For example, for the Radical Party in France, the critical thing was to win parliamentary seats, and the Parliamentary Republican Movement aimed to promote spiritual and moral values in political life. For the communist parties, the conquest of parliamentary seats was somewhat secondary.

Some critics do not agree with Duverger's (1957) analytical model, when he refers to mass parties as new parties since in this reference only European parties were framed, the American type was left aside (Meneguelo, 1989).

In turn, left-wing parties correlate with the main characteristics of Duverger's mass parties, such as: External origin (organized from social movements), intense internal organization (consisting of sections (socialist bodies) and cells (communist bodies), strong structural articulation, national centralization (the distribution of power was centralized among party leaders), strict membership requirement (member involvement required), presence of indoctrination (participation of the member in the activities of the party), relationship between leaderships and parliamentarians. (Meneguelo, 1989). For this reason, the critics of certain authors did not have great importance, since the parties of the left approach the analytical model of the mass party proposed by Duverger (1957). Thus, the modern mass/party suggests an involvement of the members with the party, because it emerged from the workers' movements, and its structure is composed of organizational and bureaucratic complexity.

As there is a modification in the organizational structure of parties, they may or may not change. In Panebianco's view (2005), the professional-electoral party, a kind of party that presents an aspect of professionalism, is implicit in the definition of the mass-party model presented by Duverger. The professional-electoral party has some characteristics:

*a) Centralization of professionals (specialized skills). b) Electoral party, weak vertical organizational links, appeal to the electorate of opinion. c) Predominance of public representatives, personalized directions. d) Financing by interest groups and public funds. e) Emphasis on issues and leadership, centralization of careerists*

*and representatives of interest groups within the organization. (Panebianco, 2005, p. 514).*

Another classification made by Panebianco (2005) is the bureaucratic mass party that offerings the following characteristics: “Centralization of bureaucracy (political-administrative competence), parties of memberships, strong vertical organizational links; appeal to the faithful electorate; predominance of internal leaders, collegial directions; financing through membership and collateral activities; emphasis on ideology; centralization of believers within the organization” (p. 514). What differentiates it from one party to another is the organizational change.

Considering that these authors were the managers of this discussion, Panebianco (2005) still sees the studies on the organizational approaches of political parties as incipient. The author underlines that to realize a party it is necessary to know the structure and how the power is distributed within the organization. According to him, this happens due to two problems: The sociological prejudice and the teleological prejudice.

Sociological bias ponders political parties to be mere manifestations of interest to specific social groups. From this point of view, the parties were divided into Workers’ Parties, Burger Parties, or Peasant Parties, giving to the social base of their members or voters. The social basis must be measured to understand the performance of the political party, and sociological prejudice ends up simplifying this role so that the party is seen by the political face of more profound social interests. On the other hand, the teleological prejudice judges the party from its fundamental purpose. There are two versions concerning this bias. The first focuses on the specific purpose of each party, in this sense, the ideology of the party is the best way to judge it. For example, the Green Party, its ideology is in defense of environmental causes. The other version is related to the general objective of the party, as the electoral victory, consequently, the conquest of the government. For the author, this model still presents limitations, since it does not explain the correct functioning of the parties, but instead focuses on predetermined objectives. In both biases, what could be a problem is just treated by the author as given data in the investigation.

In addition to the sociological and teleological prejudices, Panebianco (2005) proposes to comprehend the parties from four organizational dilemmas. The first dilemma presents a distinction between the organizational model and the natural system. In the organizational model, the organization seeks to meet more specific objectives. Otherwise, in the natural system is considered that there is a balance between the different demands. For the author, one must contemplate the official objectives since these are dominant to maintain the identity of the organization, on the other hand, there is not always agreement amid the agents to implement the objectives that the organization should follow.

The second dilemma concerns the collective incentives versus selective incentives: In the first, benefits or promises are distributed to all participants. In the second there is a restriction, the distribution is only for some participants, it usually occurs unequally. Collective incentives can be classified into three aspects: Identity incentive (identification with the organization), encouragement of solidarity (solidarity with other participants) and ideological incentive (identification with a party cause).

The selective incentives are related to power, status, and, especially, to the dispute over control of positions. In short, in the selective incentives, the organization has a more bureaucratic and hierarchical character. Moreover, collective incentives refer, above all, to solidarity and ideological incentives. Sarti (1996) believes that Panebianco (1995) realizes that ideology is a relevant feature of the collective identity of socialist and communist parties. Collective and selective incentives have helped to explain how the loyalties of faithful voters are organized. Parties of bourgeois classes have less militancy there is less participation than the leading parties. The faithful electorate is the one that most integrates with the party. On the other hand, in the party there are those participants who only pay the membership fee, called defenders by Panebianco (1995). Already the nucleus participant of the party (hardcore) has gathered the most active, some dedicate more free time for the party, mainly in an electoral period. This group, with its participatory intensity, ends up influencing the party's organizational development.

Within the party, there is a hierarchy, an internal division of labor, necessary for the distribution of selective incentive. Each militant identifies yourself with a specific type of incentive. Some militants approach more like careerists (those who want a career within the party) and others of the believer type. Nevertheless, the author affirms that the militant believer is the most found, is someone who identifies with the ideology of the party but is not involved in organizational activities.

The third dilemma explains how parties deal with their external environments. Panebianco (1995, p. 22) addresses the environmental adaptation versus the dominance, and two features are offered: First, "the environment influences the organization" and the second, "how the organization modifies the environment." The form of domination or adaptation will depend on the characteristics of the environment. In political science, the electoral arena is the adaptive environment of the party. Each party has different strategies of domination of the external environment, trying to adapt it in some way, already the object of the party has been to define its function, the hunting territory. Each organization establishes its own organizational identity, whether external (people who do not participate in the organization) or internal (people who participate in the organization).

The organizational order will vary from party to party, and history will pass through the acting environment. Panebianco (2005) adopts two theories to describe the hypothesis of organizational evolution: The first is based on Michels (1982, pp.

34-35), which deals with the oligarchic development of parties. A party starts on a genetic basis, thinking of a realization of cause, after a sequential basis: “a) Growth of the dimensions of the party. b) Bureaucratization. c) The apathy of those enrolled after the enthusiastic initial participation. d) The will of the leaders to preserve their power to transform the party into an organization whose real purpose is its organization, the organizational survival.” The second theory is inspired by the concept designated by Pizzorno (*apud*, Michel, 1982), when he describes the development of political participation based on the sociological distinction between systems of solidarity and system of interests. In the system of solidarity with a community, the interests of the participants must be equal. The system of interest is different because the objectives are not the same. In the first system, cooperation prevails. Different, the second is marked by the competition. Bearing in mind the party as an organization, this falls within the system of solidarity, since its objective is the equal participation of the citizen. However, with its development, it turns into a system of interest, and depending on the political party, it happens a professional participation.

In summary, the revised literature so far shows that, usually, the reflections are rather shallow about the use of the Internet by political parties from an organizational perspective. The results obtained in this study display that these studies only emphasize the potential of the Internet to propagate political campaigns and act as a tool for electoral marketing, and two issues are debated by many of the authors: The equalization and the normalization hypotheses. The examination indicates that the hypothesis of normalization can replace the potential of equalization between the major and minor parties through a process that has as the fundamental elements the sophistication and the advancement of technological resources.

Details such as design, information architecture, accessibility, navigability, and content are characteristics well explored by the authors, which leads to observe that the parties are concerned with questions related to the form of the website, and not with the function that it can exercise. The aesthetic of excess was considered a strategy to win the voter; the more information, the more colors, the more attention it would draw and the more prominence the website would have. The concern of the reflections did not fall on the content, but on the amount of information, mainly because some parties' sites regarded the Internet as a place of reproduction of traditional media (Braga, França, Nicolás, 2009). Another remark that should be stressed is the lack of use of participatory mediation tools between the voter, the candidate, and the party. Searches only refer to older tools, as Contact Us, the FAQ, and ICQ.

Another question should be taken as a reference recapturing the issue of democratization of debate and information in the political context: Who uses the Internet for political debate? In this case, the website has been used as a mediator amongst leaders and the party. In the era of the Internet, the mediation tools amid voter, candidate, and the party was limited to e-mail and the site. Currently, other

devices have been incorporated into the form of communication, for example, blogs and social networks, which has been changing the receptor's contact with the political debate. Though, early polls showed that voter turnout on political parties' sites was rather low.

As analyzed, the functions of the websites are not limited to the conquest of new voters nor to serve as a vehicle for the participation of the militants. The parties' websites should be understood primarily as places of institutional speech of the parties. As they are quite diverse from each other, and these differences are related to the organizational characteristics and unlike degrees of institutionalization of political parties.

To comprehend the structure of production of political parties' websites is important to map the type of investment of each party to the construction of the website. Another factor that should be discussed is regarding the design as an instrument for the reproduction of a party discourse. Each part of the site accounts for specific communicative functions within a broader discourse, and so the role that design plays is not limited to aesthetic issues. It organizes the information intelligibly since it constitutes a spatial structure of meaning production.

On the content of both sites, the vital issue to be investigated concerns how parties distribute collective and selective incentives on their websites. By collective incentives, it means the investing in the party's brand as a common patrimony of its members and sympathizers, such as symbols, references to past achievements, style, mode of action shared in the present, and goals for the future. Selective incentives, in turn, account for the unequal distribution of website resources - that is, of visibility - among the leadership or groups that are a percentage of the party.

Apropos the party site, it can be affirmed that the graphic elements represent specific meanings for the parties. Design, for instance, aims to solve a political problem through graphics. It presents an organic production of meaning, organizing fragments around a set proposition. Political backdrops have information that is transformed into graphic elements through techniques that allow the public to know the structure of a given party. The techniques are responsible for presenting solutions to the political problems concerning the organization of the party to the public. The issues that should be discussed at parties' websites do not apprehend the theory of equalization or normalization, but rather institutionalization. This component can be interpreted based on the organizational communication of the site.

Some aspects are crucial to understanding the construction of a party's identity in the digital environment, like the design and information architecture of parties' websites. The page design should present the use of institutional colors, the logo and slogan contribute to maintain a standardization of the identity of the party in the digital communication environment. About the information architecture, the party must present the institutional structure of the party, with emphasis on the political-

administrative units around which the party is structured. Another significant aspect concerns content. It is critical that a substantial investment happens in elements that can be characterized by the construction of their identity, as: 1) The presentation of the organizational structure of the party. 2) Publicizing party decisions, indicative of an accountability effort. 3) Investing in party symbols.

## **CONCLUSION**

The research proposed to review the literature about the presence of political parties on the Internet, especially from the role of their websites. For this, it was performed a mapping of the existing literature around the world. Certainly, it is reasonable to believe that the research agenda in these types of websites continues to be influenced by expectations originated in the pioneering research on the Internet. The distinction between approaches that privilege the dimension of cross-party competition and the focus of intra-party relations sound somewhat artificial and serves for educational purposes of presentation of the argument, since, in practice, many of the texts here discussed consider these two approaches.

It is noted that the subject has become the object of a considerable volume of research, in countries of Europe, Asia, Oceania, North America, and Latin America. Most of the available works has considered two fundamental questions: The use of websites as instruments of political-electoral marketing and, exclusively, their potential as a factor in the democratization of party life. Regarding this last question, the investigation has examined two fundamental hypotheses, initially designed by Margolis et al. (1997) and Resnick (1998). According to the equalization hypothesis, the websites would provide all parties with the same possibilities to publicize their views. Alternatively, the normalization hypothesis argues that differences between parties tend to hold up on their websites since significant parties have better financial and organizational conditions to maintain them. Another point, described by Blanchard (2006), indicates the website as a space for communication amid the party and the voter. In his reading, it was possible to verify that the only communication channel available was Contact Us. Indeed, few parties used this tool with precision, which made it clear that the site was not a space for debate between the party and civil society. Nonetheless the debate is present in diverse social networks used by the parties to communicate with voters.

Panebianco (2005), on the other hand, reflects the political parties from a basically organizational angle. From his point of view, the analysis of political parties cannot be limited to the study of their aims described or the interests of the social groups that they are supposed to represent. Parallel to this, he believes that the parties dedicate great energy to the effort to be preserved in time as organizations. Two

aspects proposed by Panebianco (2005) were very relevant for the analysis of the use of websites as organizational resources of the parties: The first one refers to the model of analysis of the organizational development of political parties, considering the original model and the factors that lead to a strong or a weak institutionalization. The author attributes vital importance to the origin of the parties (governing and opposition) as a significant variable to explain the degree of institutionalization of political parties. Another relevant contribution refers to the distinction between collective and selective incentives by political parties, how it was explored.

The chapter projected to underline that the website offers rich features from which political parties can use to consolidate their identities, images and organizational structure online, showing that the relationship between the Internet and politics still has many elements to be examined. As a limitation of this study is the development of an approach based exclusively on the review of bibliographic material published about the analysis of websites of political parties. In this sense, it is recommended that new research with analysis applied to websites, through case studies or comparative focus research be produced. Besides, it is relevant to investigate all the diversity of online channels available today to increase the visibility of political parties, such as social networking platforms.

## REFERENCES

- Blanchard, G. (2006). O Uso da Internet a Serviço da Comunicação do Partido. *Libero*, (18), 9–17.
- Braga, S., França, A. S. T., & Nicolás, M. A. (2009). Os partidos políticos brasileiros e a Internet. Uma avaliação dos websites dos partidos políticos do Brasil. *Revista de Sociologia e Política*, 17(34), 183–208. doi:10.1590/S0104-44782009000300013
- Cardoso, A. M. (2012). *A Comunicação Política na Internet. Análise dos websites dos Partidos Políticos em Itália*. Retrieved from: [obs.obercom.pt/index.php/obs/article/download/173/212](http://obs.obercom.pt/index.php/obs/article/download/173/212)
- Coleman, S. (2017). Democratic agency in an age of digital networks. *Revista Compolítica*, 7(1), 7–26.
- Conway, M., & Dorner, D. (2004). *An evaluation of New Zealand political party Websites*. Retrieved from: <http://informationr.net/ir/9-4/paper196.html>
- Cunha, C., Martín, I., Newell, J., & Ramiro, L. (2003). Southern European parties and party systems, and the new ICTs. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 70-97). London: Routledge.



- Duverger, M. (1957). *Los Partidos Políticos*. Fundo de Cultura Económica.
- Farmer, R., & Fender, R. (2005). E-Parties: Democratic and Republican State Parties in 2002. *Party Politics*, 11(1), 47–58. doi:10.1177/1354068805048472
- Gibson, R. K., Margolis, M., Resnick, D., & Ward, S. (2003). Election campaigning on the WWW in the USA and UK: A comparative analysis. *Party Politics*, 9(1), 47–75. doi:10.1177/135406880391004
- Gibson, R. K., & Ward, S. J. (1998). UK. Political Parties and the Internet: “Politics as Usual” in the New Media. *The Harvard International Journal of Press/Politics*, 3(3), 14–38. doi:10.1177/1081180X98003003003
- Gibson, R. K., & Ward, S. J. (2000). A Proposed Methodology for Studying the Function and Effectiveness of Party and Candidate Websites. *Social Science Computer Review*, 18(3), 301–319. doi:10.1177/089443930001800306
- Gibson, R. K., & Ward, S. J. (2003). Letting the daylight in? Australian parties’ use of the Word Wide Web at the state and territory level. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 139-160). London: Routledge.
- Gomes, W., Fernandes, B., Reis, L., & Silva, T. (2009). Politics 2.0: A campanha de Barack Obama em 2008. *Revista de Sociologia e Política*, 17(34), 29–43. doi:10.1590/S0104-44782009000300004
- Hague, R., & Uhm, S.-Y. (2003). Online groups and offline parties: Korean politics and the Internet. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 195-217). London: Routledge.
- Karlsen, R. (2009). Fear of the political Consultant: Campaign Professionals and New Technology in Norwegian Electoral Politics. *Party Politics*, 16(2), 193–214. doi:10.1177/1354068809341055
- Löfgren, K., & Smith, C. (2003). Political Parties and Democracy in the information age. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 39-52). London: Routledge.
- Luíse, D., & Segurado, R. (2017). Redes Digitais e Debates Políticos: O caso “Truco Popular” no Facebook e a formação para a cidadania. *Ponto e Vírgula*, (22), 20–42.
- Margolis, M., Resnick, D., & Tu, C. (1997a). Campaigning on the Internet: Parties and candidates on the Word Wide Web in the 1996 Primary Season. *The Harvard International Journal of Press/Politics*, 2(1), 59–78. doi:10.1177/1081180X97002001006

- Margolis, M., Resnick, D. & Wolfe, J. D. (1997b). Party Competition on the Internet in the United States and Britain. *Press/Politics*, 4, 24-47.
- Meneguelo, R. (1989). *PT A formação de um partido 1979-1982*. Rio de Janeiro: Paz e terra.
- Michels, R. (1982). *Sociologia dos partidos políticos*. Editora Universidade de Brasília.
- Newell, J. L. (2001). Italian Political Parties on the Web. *Press/Politics*, 6(4), 60-87.
- Norris, P. (2000). *Preaching to the Convert? Pluralism, Participation, and Party Websites*. Retrieved from: <http://ksghome.harvard.edu/~pnorris/ACROBAT/Preaching.pdf>
- Panebianco, A. (2005). *Modelos de Partido: A organização e poder nos partidos políticos*. Martins Fontes.
- Pedersen, K., & Saglie, J. (2005). New Technology in Ageing Parties: Internet Use in Danish and Norwegian. *Party Politics*, 11(3), 359–377. doi:10.1177/1354068805051782
- Ribeiro, P. F. (2008). *Dos Sindicados ao Governo: A organização nacional do PT de 1980 a 2005 (Unpublished doctoral dissertation)*. University of São Carlos. Retrieved from <http://pct.capes.gov.br/teses/2008/33001014026P2/TES.pdf>
- Römmele, A. (2003). Political Parties, party communication and new information and communication Technologies. *Party Politics*, 9(1), 7–20. doi:10.1177/135406880391002
- Sarti, A. (1996). Utopia de Michels e a democracia partidária em perspectiva. *Revista Brasileira de Ciências Sociais*, 11(30), 129–138.
- Schweitzer, E. J. (2005). Election Campaigning Online: German Party Websites in the 2002 National Elections. *European Journal of Communication*, 20(3), 327–351. doi:10.1177/0267323105055261
- Small, T. A. (2008). Equal Access, Unequal Success Major and Minor Canadian Parties on the Net. *Party Politics*, 14(1), 51–70. doi:10.1177/1354068807083823
- Strandberg, K. (2008). Online Electoral Competition in Different Settings. A Comparative Meta-analysis of the Research on Party Websites and Online Electoral Competition. *Party Politics*, 14(2), 223–244. doi:10.1177/1354068807085891
- Ström, K. (1990). A Behavioral theory of competitive political parties. *American Journal of Political Science*, 34(2), 565–598. doi:10.2307/2111461

Vaccari, C. (2008). Research Note: Italian Parties Websites in the 2006 Elections. *European Journal of Communication*, 23(1), 69–77. doi:10.1177/0267323107085839

Villalba, B. (2003). Moving toward and evolution in political mediation? French political parties and the new ICTs. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 120-138). London: Routledge.

Wallis, D. (2003). Democratisation, parties and the net: Mexico – model or aberration? In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 175-194). London: Routledge.

## KEY TERMS AND DEFINITIONS

**Collective Incentive:** The distribution of benefits and promises are for all members.

**Equalization:** On the internet, major and minor political parties would have the same space.

**Mass Parties:** These are those parties formed by the mass, and its goal is to help disadvantaged classes.

**Matches of Cadres:** Are those parties in which its primary objective is to obtain political positions for its members.

**Normalization:** All the parties would have a substantial presence on the Internet. However, significant parties would employ more sophisticated techniques than minor parties since they have more financial resources.

**Organizational Structure:** It refers to the internal organization of political parties.

**Selective Incentive:** The benefits and promises are distributed only to selected participants. Usually, the selection is uneven.

# Chapter 5

## Designing Eco Cities With the Understanding of Digital Nomads

**Havva Alkan Bala**  
*Konya Technical University, Turkey*

### ABSTRACT

*A computer and a fast internet connection allow us the opportunity to work from just about anywhere, creating cyber-culture. What we need for that is just be good at what we do and be able to sell our services or products online so we can go and live wherever we want. A person who chooses to embrace remote work as a lifestyle choice, using technology to make a living that enables themselves to be as mobile as they want to be called “digital nomad.” Digital nomads have the business and education opportunity much more independent and collaborative. This study is about the designing eco-cities with the concept of digital nomads and their understanding of life. For nomadic lifestyle “change is home.” In modern period, it is vital to understand the philosophy behind the nomadic lifestyle which focuses on experiences instead of accumulating. A digital nomad has ecological approach that means not to be consumer more than necessary. This study claims that understanding of digital nomads give clues to digital age and its cities.*

### 1. INTRODUCTION

Today, technology is an effective element of life and is the most impressive characteristics of modern life. The improvements in information and communication technologies offer new opportunities in business world, in education and in every field

DOI: 10.4018/978-1-5225-8024-9.ch005

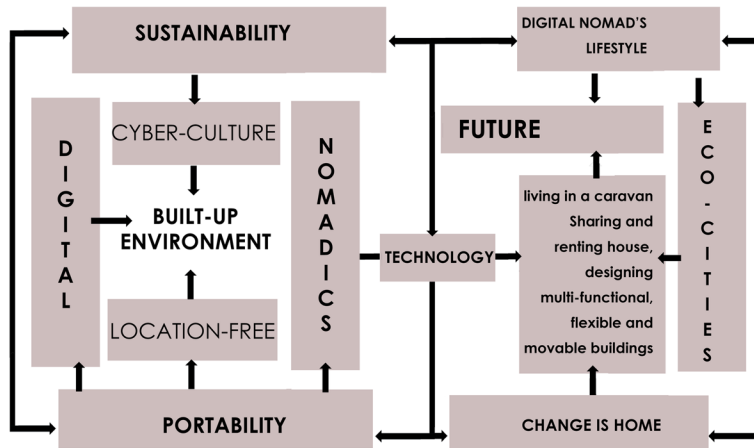
of life creating a cyber-culture. A laptop and a good internet connection created a new accumulation that is called 'cyber-culture'. The understanding of life, education, work and its relations has changed nowadays with the technological innovation of the last twenty years. Living and creating in digital life refers to on-line communities. Digital life goes in cyber-space and cyber-culture with digital revolution. Cyber-culture also includes new artistic and cultural movements. Cyber-culture introduces the human being with the new concepts like digital immigrants, tribes and digital nomads. A computer and a good internet connection gives opportunity to people who are good at what they do and good at selling their services or their products online. It gives the chance of living wherever we want. A person who chooses to remote work as a lifestyle is called digital nomads. Digital nomads have the business and education opportunity much more independent and collaborative. Digital nomad isn't a job title but a lifestyle choice. A nomadic lifestyle may impossible to most of the people. However, technological advantage allows people to work remotely and become digital nomads who have advantage of work online and enjoying the flexibility. One who derives income remotely and online, rather than from commuting to an office.

This study is about the designing eco-cities with the concept of digital nomads and their understanding of life. For nomadic lifestyle "change is home". In modern period it is vital to understand the philosophy behind the nomadic lifestyle which focuses on experiences instead of accumulating. This study claims that understanding of digital nomads give clues to digital age and its cities. Being world citizen, keeping sharing, giving more importance to understanding the world than making money, believing that less is more, consuming less and becoming happier is the main concepts of eco-cities.

## **2. METHOD**

In this study two concept as sustainability and digital nomads' life style has been meet in portability and also changing meaning of home in cyber-culture. Making comments about these issues, some estimations has been found out about the cities of future. The essence of movement is freedom. Movable buildings may be the key to the future.

*Figure 1. Concept diagram*



### 3. THE CONCEPT OF CYBER-CULTURE: A CULTURE BORN IN THE INTERNET

Cyber-culture refers to internet technology. After internet is becoming part of modern life, everything changed in political practice, economic exchange, communicational technology and language. Internet as a technology, as a new social context, as a new creative and collaborative tool and as a medium of communication created a new atmosphere that is called cyber-culture. In this cyber-culture social interaction as chatroom communication, video-conferencing, bulletin boards and blogs are new approaches of communicating. Cyberspace become the new media of modern social construction. Mass introduction of digital computational devices and telecommunication equipment created cultural changes and social ramifications into social space and human organizations so the terms as “cyber-culture,” “the information age,” and “the information society occurred. According to anthropologist Elisenda Ardevol (2005), people are using, the prefix “cyber” for activities, social movements carried out through Internet. “Cyber-activism”, “cyber-cafe”, “cyberart”, are the part of “cyber-culture” (Day, 2002). Using internet and hypermedia tools has given the circumstance of new type of producing and consuming. Works of art, literature, music or other cultural production occurred in internet. Christine Hine (2000) in her book *Virtual Ethnography* mentioned the understanding internet as a media form. Internet can be seen as a media form in as much it is a communication technology that somehow develop and put together former communicative practices. Internet, associated with other informational technologies, represents today a potential challenge to mass media and entertainment industries. David Porter (1996) points

out that communication through Internet can be understood from the perspective of culture since in virtual spaces one can find shared systems of beliefs, values and norms, specific ways of doing, a common understanding of symbols as emoticons and other signs that can perform a collective sense of belonging and create community. Margaret Mead (2000) used to some extent to develop ethnographic oriented studies to describe virtual communities as if they were a new “tribe”. Digital tribes show how people involved in specific cultural forms as they create places, objects, subjects and actions, laws and social order, but from these interactions emerge a sense of community and belonging of similar characteristics of offline social life. People construct online collective identities and a virtual life. The term “digital tribe” is used as a slang term for an unofficial community of people who share a common interest, and usually who are loosely affiliated with each other through social media or other Internet mechanisms. Cyber-culture introduces the human being with the new concepts like digital immigrants, tribes and digital nomads. In literature a digital immigrant is an individual who was born before the widespread adoption of digital technology. Digital immigrants are the opposite of digital natives, who have been interacting with technology from childhood. However, digital nomads refer different meaning that is the main part of this study. Education need for migration, together with other similar reasons, has configured a contemporary lifestyle that is very similar to the nomadic past of humans – the early periods of human existence, when humans were following weather and climatic conditions and migrating by following food resources, essential for their survival.

In Cyber-culture there is different type of nomads for different purpose. Migration with educational purposes is called edu-nomads. The contemporary ‘edu-nomads’ are following their resources of education which, in some sense, force them as individuals to organize their life to be based on temporality in a form of ‘temporary living lifestyle’. Even though students’ living is based on temporality, there is no doubt that the spaces that they are forced to inhabit, must offer to them something more than just a shelter. Most of the education process, the use of education media which brings together the educator and the student conveys the content of the lesson, the effectiveness of the educational organization and the existence of bilateral communication between the academic member/representative and the student (Keegan, 1986), (Bala and Arat 2013), (Meşhur and Bala, 2015). The internet and web have resulted in new methods of working. Different type of job has evolved into a multi-disciplinary and international business by means of the development of the internet. Participants in different profession are from all parts of the world and come together to complete the work, either in person to person contact, or via the internet (Bala and Bussiere, 2012).

#### **4. THE MODERN NOMADS; DIGITAL NOMAD LIFESTYLE**

After discussing the “Digital” concept as a part of the cyber-culture, in this study “Nomad” part required deeper thinking. What is qualifies as a nomadic lifestyle? What is the difference between a nomad lifestyle, a “location-free” lifestyle, and a “remote work” lifestyle? We all have our lives – school, work, the coffeehouse, the bar and our comfortable, loving beds. But have you ever wondered what it would be like to turn life completely upside down and live a different way? The main idea here is that nomads switch locations constantly -preferably to places they have never been before- without having a permanent base.

In the early periods of human existence, nomads were following weather, climatic condition and migrating by following essential for their survival. There are still some nomad communities in our World like Bedouin, Tlingit, Kochi, Sarakatsani, Tuareg, Irish Travellers, Pokot, Khoisan, Nukak-Maku, Qashqa. Technology affects nomads in two aspects. Firstly, the rapid pace of technological advance is decreasing the number of ancient nomadic people, since it produces more reasons to settle down. Secondly, the internet allows people to work remotely. People has the opportunity to become Digital Nomads. Digital nomadic is the way of life which allows anyone to work online while enjoying the flexibility to constantly change locations (Potts, 2002), (Ferriss, 2009). Digital Nomads are trying to deal with the issue of lack of social life by choosing global locations that are Digital nomad hubs. This greatly increase the chance of meeting like-minded people. We can summarize the major characteristics of nomadic lifestyle as in Table 1.

A laptop and a good internet connection allows people the opportunity to work from just about anywhere. Living the digital nomad lifestyle means relying on the internet to financially sustain. This is a new trend with location independent while working remotely. Those choosing to become digital nomads are putting emphasize on creating a work environment which is “Location Independent”. We can summarize the major characteristics of digital nomads and their lifestyle as in Table 2.



*Table 1. Major Characteristics of Nomadic Lifestyle*

| <b>Major Characteristics of a Nomadic Lifestyle</b>                                       |  |   |
|---|--|---|
| <b>The Perception and Beliefs</b>   | <b>Behaviour</b>   | <b>Individual Properties</b>                          |
| The nomadic lifestyle is vital for a nomad  | Migrating by following recourses essential needs   | Being practical                                       |
| Nomads Must Live Minimalist   | travel light and have a minimalist mindset   | Be happy with the simplest and the most necessary     |
| Being nomads making alive<br>Nomads focused on “less is more”                             | Move for better life and experiences   | Be willing to take the risk                           |
| For nomads “Change is home”   | To change locations all the time   | Be quite smart and interesting                        |
| Nomads are far away any attachment  | Behind left all attachment including career, relationship, or assets                           | Be ready to be alone                                  |
| Nomads feel comfortable out of their own private comfort zone                             | Most of the nomads don’t spend time where they were born.                                      | Being outgoing and prefer individualism               |
| Everywhere can be nomads home   | Spend their time in someone’s  | Be respectful and easy going                          |
| which provides deeper experiences   | accommodation  |   |
| The quotes of nomads “If you are lonely when you are alone, you changed your perspective” | Spend a lot of their time alone and should enjoy it as well.                                   | Be happy with themselves                              |
| Nomads believe as if “everything is temporary and nothing is yours”.                      | As nomads everything is always new with changing locations                                     | To think and adjust fast                              |
| Nomads focus on experiences instead of accumulating                                       | Can survive out of comfort zone and can adapt easily the new environment                       | Be curious and positive                               |
| Nomads stay as long as they get life opportunity in each location                         | To travel as fast as they need   | To trust your intuition and make quick decisions.     |
| Nomads fight just the sake of better and deeper life                                      | Exposed to many lifestyles, cultures and constantly changing situations                        | Be open-minded  |
| A nomadic lifestyle may impossible to most of the people                                  | You have to put effort in finding what you need, and probably can’t speak the native language. | Be strong enough to be alone out of your comfort zone |

## Designing Eco Cities With the Understanding of Digital Nomads

Table 2. Major Characteristics of Digital Nomads and Their Lifestyle

| Major Characteristics of Digital Nomads and Their Lifestyle            |   |
|--|---|
| <b>Style of job</b>  | Digital nomads have online jobs and work from home so they can travel while working. Coding, graphic design, freelance writing, manager, adjunct clinical research associate, curriculum development specialist director of clinical analytics, contractor, math, manager, online, specialist, quality recruiter, editor or senior is the main jobs of digital nomadic.       |
| <b>Style of travel</b>   | A digital nomads travel slower than the other types of nomads because they depend on a certain amount of infrastructure to sustain their lifestyle.   |
| <b>Style of Locations</b>  | Digital nomads travel from big cities because big cities have infrastructure needed to get work done and have wider variety of co-working spaces and the ability to connect to likeminded people socially.  |
| <b>Hack Life</b>   | Digital nomads prefer big cities in developing countries with low cost of living. This allows them to "hack life" by making money from clients in rich countries while greatly increasing their quality of life living in low cost countries. They pick "Digital Nomad Hubs" where they can find a community and meet other nomads who share their lifestyle while traveling. |
| <b>Environment of work</b>   | Digital nomads prefer to work in Co-working spaces which offer stability and fast internet connection or prefer working from their rented apartment or hostel.  |
| <b>Work out of Daily Routines</b>                                      | The digital nomad lifestyle usually focusses on high quality work without any routines.   |
| <b>Local in disguise</b>   | A digital nomad's social circle usually includes more locals or digital nomads than tourists.   |
| <b>Adaptability</b>  | It should not be underestimated the ability to reset existence situation and completely change a location without much preparation.   |
| <b>Funding location independent</b>                                    | Work as a freelancer doing computer-based work which is location independent  |
| <b>begin by reducing unnecessary costs.</b>                            | Digital nomads don't pay rent for a place where they are not really living. They don't buy pricey clothing, food, and experiences.  |
| <b>Be comfortable with long periods of unemployment and</b>            | nomadic lifestyle requires being able to struggle with being unemployment for a long time. In generally people get used to full-time job whether they are happy or not. It's simply difficult to explain nomad's periodic unemployment and lack   |
| <b>negative cash-flow.</b>   | of year-round income to those who have never lived this way. But with personal budgeting, a savings cushion, and the ongoing support of those who understand your lifestyle, such anxiety subsides.   |
| <b>Learning style</b>  | The knowledge gaining from being a Nomad isn't the same as traditional system. They have the opportunity to experience a variety from all corners of the globe. They can pick up foreign languages and learn from people.   |
| <b>Gains knowledge</b>   | By gaining knowledge through experiences as Nomads gives the chance of the discover their best version soul deepness.   |
| <b>Gives freedom</b>   | Lifestyle of nomads brings freedom. Braking the daily routine break the boundaries and limits.  |
| <b>Creates a story</b>   | Being a Nomad is a journey. It is quite normal that such a life creates an interesting story to share with others.  |
| <b>Develop connections</b>   | Lifestyle of nomads brings many encounters with people, new relationships, wide network. Being a Nomad is a great way to fast-track your networks to a global scale.  |
| <b>Digital Nomads Must Be Able to Live Minimally like other nomads</b> | a minimalist lifestyle means less belongings, more space, more place for creativity. Everything else is non-necessary, burdening, and should be avoided.  |
| <b>Cognitive Overloading Can Be a Serious Issue</b>                    | Traveling means a lot of things to think about schedule, budget and time management, places to visit, tasks to perform, training, seduction opportunities and paperwork.  |
| <b>Lifestyle and Life Choices Matter</b>                               | As nomads be hosted by various people make them in the middle of their lifestyle.   |
| <b>The Challenges of not having a home</b>                             | Being a Nomad isn't easy. Living in an environment of constant change where situations can be quite hectic at times can be tiring. By not having a home in the traditional sense and taking just a bag and travel requires the basic understanding of nothing is ours and everything is temporary.  |
| <b>The Challenges Of taking risk</b>                                   | Having the ability to travel all the time requires high adaptability. Each new location nomads are able to redefine themselves and start from scratch. Try something new. Take a risk. Be able to handle a lot of daily inconveniences, to take care of the unexpected, free to choose. Live without the crutches of usual comfort.   |

## **5. THE CONCEPT OF ECOLOGICAL APPROACH AND RELATION BETWEEN DIGITAL NOMADS**

The urbanization and movement to the big cities which are the most striking result for humanity as a result of the industry revolution which began in the 17.th century is going on without slowing down. The part of the world population which lives in cities exceeded those who live in rural area for the first time in 2010. Despite all those difficult problems, it seems that more and more people will live in big cities in the future so long as the level of development and reconstruction increases (Alkan and Bala, 2017). The question of how the future cities will be regarding human life is tried to be answered in different perspective. Scientific evidence informs human being to be careful for urbanization to save their life and future generation. If we insist on lack of “love, sharing, understanding” and behaving as harpy to nature, environment gave a strong reaction to human being. What will be in the end with climatic changes, air pollution, and water pollution, destroying nature balance with rapid urbanization without green area, using land with high-rise-dense settlement without any green, cutting trees and constructing huge shopping mall instead, creating a big social and economic gap between rich and poor? The answer is hidden being sustainable and living with the nature and sharing equally. Environmental problems especially built-up environment and cities has been creating gigantic problems for our world in modern period. That is why politicians, planners, designers, architects focused on ecological approach.

Ecology is defined to interact with the nature and biological environment. If we survive the challenges of air pollution, water pollution, lack of oxygen, over population and its damages, endangered species, differences in income distribution, we have to make radical changes in our own ecological niches starting from our family, our houses and settlements of society. To do this we will have to behave fairly altruistically, not only towards our own families, friends and neighbor but also to the larger family of our fellow human beings (Roaf 2001). Humans seldom question that, in times of war, they are asked to die for their country. When faced with the twenty-first century challenges it is the global nature of human being’s environmental impacts that make it imperative to see our kin all the people of the world. If not, few of us will survive. There is no safe place in the twenty first century. Buildings are part of our ecological niche. We should design our built up environment with new knowledge, materials, renewable technologies to create eco buildings. We need to a new type of designer, part architect, part engineer and to get rid of heating and cooling machines.

The building should be ecologically friendly. Therefore, it must be designed to take advantage of the natural environment as much as possible. Cooling ventilation need to be addressed at the whole building level because of humidity and high moisture

*Table 3. The Concept of Ecological Approach and Relation Between Digital Nomads*

| The Concept of Ecological Approach and Relation Between Digital Nomads                       |  |  |  |
|--|--|--|--|
| Main Idea of Digital Nomads Approach   | Major Characteristics of Eco-cities  |  |  |
| Style of job: online job, using internet, free from location, work out of daily routines     | Accessibility and network are not depend on motor vehicles, trains, roads or other circulation pattern but based on <b>NETWORK</b> system  | to make production areas open to <b>CO-OPERATION</b> and interaction as a whole in all over the world. |  |
| Style of travel  | Cities should provide slowness. Not fast food, fast life but slow cook and slow life. The understanding of <b>CITTA-SLOW</b> should be widespread  |  |  |
| Style of Locations   | Co-working spaces may be popular. All kind of common space and services should share. Public area and services could be used <b>MULTI-PURPOSE</b> way.   |  |  |
| Hack Life  | Like digital nomads hack life format rich countries should pay much more attention to carbon release to make the settlements much more <b>LIVABLE</b> regarding the cumulative of the all world.   |  |  |
| Environment of work  | To focus on the development of <b>COMMON CONSCIOUSNESS</b>   | recruiting in <b>PEACE</b> and sharing, not in competition and war                                     |  |
| Adaptability   | Wildlife with natural ecosystem should incorporating urban areas, some <b>INTERFACES</b> should be created. To stabilize temperature and humidity nature should be part of the cities.   |  |  |
| begin by reducing unnecessary costs, belongings  | <b>WIND-POWER</b> should be used. Wind turbine can provide electricity needed  | Using <b>SOLAR PANELS</b> and photovoltaic systems from residents to industrial area                   | Waste management is vital. The waste should collect and <b>RECYCLED, RE-USED</b> |
| Gives freedom  | Human beings will experience the freedom through electrical devices in the field he has never had.   | <b>FREE CITY</b><br>Wireless<br>Complex Connection<br>Complicated network                              |  |
| Creates a story  |  |  |  |
| Digital Nomads Must Be Able to Live Minimally like other nomads, “less is more”              | using local materials, and local energy, air and water flows, sunlight, wind and rain to best advantage<br>reducing CO2 emission and noise, improved air quality and health Planning, construction and living criteria in cities are <b>PEOPLE-ORIENTED</b>  |  |  |
| Lifestyle and Life Choices Matter  | convivial social environments should be created. The gap between income should get a balance. Innovative culture by using technology improve livability<br>The houses are based on design ideas from some of the residents who had been involved in the initial recycling. In the recycling houses there should be containers for paper, cardboard, colored glass, uncolored glass, metal, plastic and batteries |  |  |
| For nomads “Change is home”, Everywhere can be nomads home which provides deeper experiences | sustainable <b>MOBILE HOUSING</b> completely eco- friendly.<br><b>GREEN CARAVANS</b> conserve fossil fuels   |  |  |
| Nomads are far away any attachment   | <b>AERODYNAMICS DESIGN</b> concept with battery and storage systems  |  |  |
| Nomads feel comfortable out of their own private comfort zone                                | mobile home, which IS <b>SELF- SUSTAINABLE ECO-CAPSULES</b><br><b>FLEXIBLE</b> buildings is new ideas for eco cities construction  |  |  |
| Nomads believe as if “everything is temporary and nothing is yours”.                         | <b>ELECTRONIC HOUSE</b><br>Designing <b>PORTABLE ARCHITECTURE</b> is sustainable   |  |  |

*Figure 2. Five phases of David Passig  
(Alkan and Bala 2017)*



level in the air. Futurologist began to look at the life history of fossil fuels on the planet and make claims about how much oil, and gas were left. Their prediction was alarming from the features on gas, oil and coal. We have left around 40 years of conventional oil reserves, 65 years of gas at current rates of extraction (Roaf 2001). Thus we need to create ecological cities that enable their residents to live a good quality of life while using minimal natural resources (Table 3).

It is obvious that liberalization, being much more movable, free and independent having a global understanding will be the spirit of new civilization (Passing, 2011). Being liberal have consisted of free from traditional organic energy sources, location independent, being wireless. Designing eco-cities in the future is inspired from digital nomads and their understanding of life. Following digital nomad's lifestyle as planners, architects should think about living in a caravan as a eco house, sharing and renting house, creating ecocapsule, designing multi-functional, flexible and movable buildings. Portable architecture may be good ideas for eco cities construction in wireless universe.

## **6. PORTABLE ARCHITECTURE ESSENCE OF FREEDOM FOR ECO-CITIES CONSTRUCTION IN WIRELESS UNIVERSE**

Human beings achieved an important development in his seek for recovering from the addiction to space through transmitting data wirelessly. Although humanity has found methods to transfer fields from the bytes since the beginning of the 21.st century, human mankind isn't free about the energy sources. *"Extracting fuel from deep parts of earth, transporting it to far distances aren't enough for the freedom*

*hidden in the fourth dimension and this consciousness of freedom will seek for freedom ” (Passing, 1911), (Figure 2).*

The data-transmitting devices or transport-communication devices are unable to recover from the addiction to the walls and cables. They have to plug in their devices and charge them for a few hours. For that reason, we should head to other directions about producing and transferring energy disregarding their sufficiency starting from the variants of environment and freedom. It is clear that telecommunication technologies have changed all social, economic and urban structure in lifecycle. It also has changed the meaning of family and house (Table 4).

*Table 4. Phases of Human Mankind Regarding Life Cycle (Alkan and Bala, 2017).*

| Phases of Human Mankind Regarding Life Cycle |  |  |                           |   |  |
|--|--|--|---------------------------|---|--|
| FAMILY                                       | Big Family                                   | Nuclear family   | Electronic Family         | individual rights and freedoms focused family   |  |
| DWELLING                                     | Big House based on farm                      | Big House  | Small House<br>Apart Room | cooperative<br>apartment house<br>public houses | Electronic House                         |
| PRODUCT                                      | Collecting Plant<br>Hunting                  | Agricultural   | Industrial                | Mass Production                                 | Individual Technology focused production |
| TRANSPORTATION                               | Pedestrian scale-safety- first vehicle wheel | Motor vehicle<br>Railway system<br>Mass Transportation | Individual transportation | Information and Technology                      | nuclear fission                          |
| ENERGY                                       | muscle                                       | Initial energy resources Coal                          |                           | petroleum<br>Oil hydraulics<br>Wind power etc.  | Solar Energy                             |
| CITY   | Pedestrian City                              | Industrial City  |                           | FREE CITY                                       |  |

Radical changes *were* started with the sizes of the computers are getting smaller and smaller everyday portability and they are turning into more portable devices, their all get out capacities, the transportation system of the city, their functioning style and time (Meşhur and Meşhur 2007). During new civilization period, it is possible to summarize the determinative elements of this change caused some new state like;

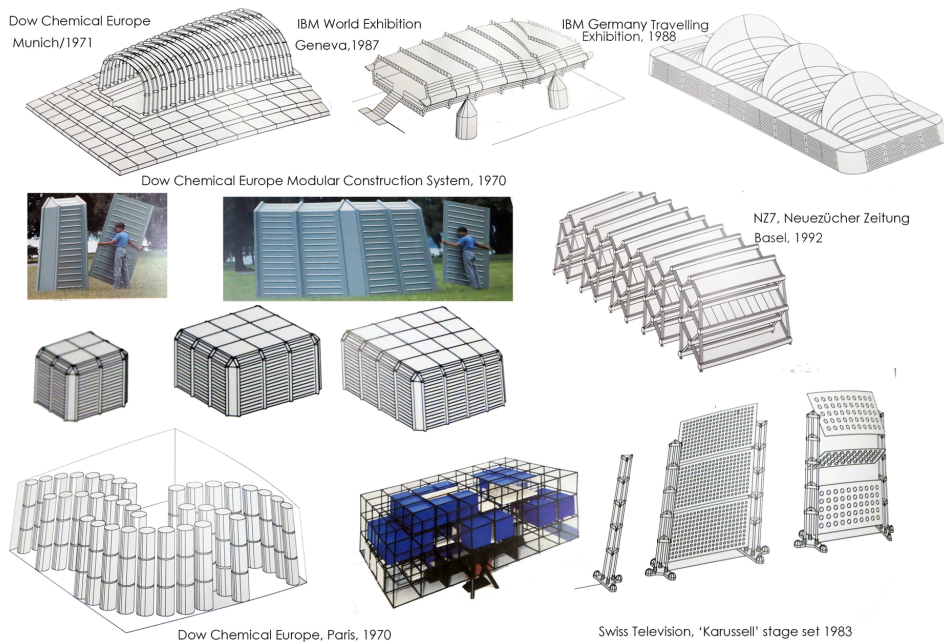
- On the focus of the urban space of the future, there will be the “**Electronic House**” where the activities of sheltering, education and working conducted together. “The House” which escapes from the imposition of “popularization”

will be a building where human beings constructed independent from the jurisdictions such as big city, city center, and the closeness to work areas. A transformation associating the perception of “the house for production-consumption” will come into agenda (Toffler 1980).

- A new comprehension of city will be developed through the opportunities of energy which has escaped from the ties such as massive sheltering and production sites imposed by the industrial revolution, special function regions, easy and massive transportation, compact city and sustainable settlements etc. Parallel to the liberalized individual, we may call it as the “**Free Cities**”.
- Instead of the “elementary family” which dissolution seems inevitable, “**Electronic family commune**” may be the sociological unit which equals to the macro form of the free cities.
- Changing relationship between production and consumption will deeply shock the term of traditional shopping. In addition to the developing new transportation vehicles and technologies, changing technologies of commercial perception and conveyance of goods will radically change our current transportation infrastructure. From this day on, it will not be wrong to say the city of third wave will have a macro form which is less dense, common and feeding the freedoms. The clues of privatization and popularization of air transporting may be seen today.
- Despite the demands for physical transportation with lower density, the flow of information and goods at high speed and density, and an urban space which circulated by the large fields fit in bytes. The discrimination between rural and urban is minimized and the fuzzy settlements determine the borders.
- We switch to an urban space where the concept of center declines, the term of peak hour is forgotten, the level of activity decreases but the economic scales increases exceeding all types of estimations.
- The most important obstacle and the field of conflict for the formation of the free cities will be the reflex of traditional to defend and generate itself. It a dream to expect the technological change which changes at an unprecedented pace is reflected into the place in the same speed. In addition to the reflexes of the industrial revolution for defending the institutions and places, the construction of the urban spaces which will be abandoned and rebuilt and host big populations mean economically huge investments.

The “**Free Cities**” where the cities liberate, the terms related to the city is completely changed, flexible, common, relying on environmental values and shaped in accordance with the demands of free individuals are on the way for actualization during new civilization period in front of us. Being free also have some reflection to the architecture. Actually portable architecture has known since 1970 (Figure 3).

*Figure 3. Some examples of portable architecture for contemporary exhibition hall (Kronenburg, 1998).*



Sustainable issues such as ecology, climate, life cycle costs, energy efficiency, water conservation and recycling may be good for transportable building. Transportable housing units must capture, generate, convert store and recycle water and electrical power. Eco-architecture sees buildings as a part of larger ecology of the planet and the building as a part of a living habitat. The tent dwellers of Mongolian steppes of Siberia to the desert of Saudi Arabia are good at constructing well insulated envelope. The tents of traditional immigrants of Turkish people is an air tight structure into which there is very little infiltration of cold air from the driving wind. A Nomadic tent is an adaptable building to swallow the sun in cold days and away from it in hot days. By making the envelope of the tent so adaptable, the range of climates in which its occupants can be comfortable, are considerably extended and tents of various shapes and materials. The igloo is an important feature of buildings design in cold climates (Kronenburg, R.1998).

The built environment is commonly perceived as a relatively static entity, change occurring slowly over years, decades and lifetimes. Many methods of transport contain living and working facilities which mean that they are also permanent dwelling and work places capable of movement in space on time. A transportable building in its simplest term a building that moves. Transportable architecture implies that it does



much more—it possesses all the capabilities that permanent architecture has to create meaningful, identifiable, recognisable environments. Transportable buildings can fulfil the role of almost any permanent buildings but they can also satisfy functions that permanently sited structures can not. They can be in use quickly, on sites not suitable for conventional construction and can be capable of reuse at a later date in another place. Sigrun Prahl mentioned in the book of Transportable Environments (Kronenburg, 1998) some shelter examples for no-income and low-income people actually referring the futurist house.

Portable shelter cart, is a portable plywood and metal construction to be used as eco-houses. The migrant camp, a lightweight paradome structure, the mobile home

*Figure 4. Green Caravans*

(<https://ecofriend.com/eco-friendly-caravans-green-living.html>)



This are construction on inexpensive or free land built with inexpensive or free yet durable materials prefabrication, use of unskilled labour, erection of small units clustered together. What they also have in common in engaged and socially aware planners and architects who recognize the need and who develop in a very creative way different types of temporary shelter. Its cargo will be unloaded in preparation for assembly. First the container will have to be connected to concrete piers poured in place at the four corner. Portable buildings are perhaps more influential to the future ecological responsive architects than one might think at the moment like eco-capsules (Figure 5).

**Figure 5. Eco-capsules**

(<https://www.youtube.com/watch?v=z7Vp0DJrBm8>), (<https://www.ecocapsule.sk/>)



## 7. CONCLUSION

The improvement of internet speed all over the world. Growing acceptance of remote work contracts between individuals, freelancers and businesses and co-working spaces all over the world allows digital nomads the infrastructure and stability to work effectively without the need for long term lease.

In this paper following digital nomad's lifestyle; living in a caravan as a eco house, sharing and renting house, creating eco-capsules, designing multi-functional, flexible and movable buildings is new ideas for eco cities construction. Designing portable architecture is sustainable. it is aimed to bring an intellectual declination to the aspects of eco-cities deeply affecting the future of urbanization and planning activities. The changes that may emerge in the forms of producing and consuming the energy naturally affects the urbanization process in addition to technological a socio-economic development. The process should be evaluated through totalitarian developments. When the complexity of the matter is considered, deep theoretical declination is required. As a result of those discussions and researches, it is a beginning that is hoped to provide contributions to change the planning paradigm. Futurologist and planners should think about deeply digital nomads and their lifestyle to bring up new approach to design free city and its buildings. Abundance of travel apps and services allowing nomads to travel in a more effective way. Those services (E.g. Google Maps, Airbnb) deal with all aspects of life on the road, from accommodation, transportation, health and meeting people. Growing number of digital nomad blogs which increase the amount of information on a lifestyle that seems abnormal and irrational at first glance. Creating a location-independent livelihood requires an entrepreneurial spirit, comfort with uncertainty, personal budgeting savvy, working long or strange hours, and a willingness to embrace weird, unproven, or alternative lifestyles. Portable buildings are the essence of freedom. Following the understanding of "less is more" will create minimalist, efficient life and its structure. Portable

shelter carts, a lightweight paradome structures, the mobile home as green caravans, eco-capsules are the portable construction to be used as eco-houses.

## REFERENCES

Alkan, A., & Bala, H.A. (2017). Solar Energy And The City's Future Reflection. *Journal of Solar Energy Research*, 2(2), 55-60.

Ardevol, E. (2005). Cyberculture: Anthropological perspectives of the Internet Universitat Oberta de Catalunya. In Using anthropological theory to understand media forms and practices workshop, Loughborough, UK.

Bala, A. H., & Bussiere, M. (2012). Pedagogical Implication for International Cooperation in Architectural Design Studio. *AE-Lusafona Architectural & Education Journal*, (6-7), 9-27.

Bala, H. A., & Arat, Y. (2013). Digital Pedagogy Using Social Network Tools in Architectural Education. *Procedia Information Technology & Computer Science*, 3, 160-166. Available from: <http://www.world-education-center.org/index.php/P-ITCS>

Day, E. R. (2002). What is 'Cyberculture'? : Digital Culture and Critical Information Theory. In *Critical Cyberculture Studies Conference*. University of Maryland.

Ferriss, T. (2009). *The 4-Hour Workweek: Escape 9-5, Live Anywhere, and Join the New Rich*. Crown Publishing Group.

Hine, C. (2000). *Virtual Ethnography*. London: Sage Publication.

Kronenburg, R. (1998). *Transportable Environments Theory Context, Design and Technology*. Routledge Press.

Mead, M. (2000). *The Study of Culture at a Distance*. Berghahn.

Meşhur, F. A., & Meşhur, M. Ç. (2007). *New Information and Communication Technologies (NICT's) and Changing Urban Areas Regarding Sustainability*. In *ENHR International Conference*, Rotterdam, The Netherlands.

Meşhur Alkan, H. F., & Bala, A. H. (2015). Distance Learning in Architecture/ Planning Education: A Case Study in the Faculty of Architecture at Selcuk University. In *Assessing the Role of Mobile Technologies and Distance Learning in Higher Education*. IGI Global.

Porter, D. (1996). *Internet Culture*. Routledge.

***Designing Eco Cities With the Understanding of Digital Nomads***

Potts, R. (2002). *Vagabonding: An Uncommon Guide to the Art of Long-Term World Travel*. Villard Books.

Roaf, S. (2001). *Ecohouse-A Design Guide*. Architectural Press.

Toffler, A. (1980). *The Third Wave*. Academic Press.

## Chapter 6

# Reflections in a “Black Mirror”: Reputation and Memory Conservation in a Too Technological Era

**Sebastiano Nucera**  
*University of Messina, Italy*

**Francesco Paolo Campione**  
*University of Messina, Italy*

### ABSTRACT

*The focus of this work is to analyse two episodes of the lucky TV series Black Mirror in an attempt to examine the descriptive trajectory of an increasingly technology-driven society. It has to be noted that the two chosen episodes describe a society seemingly working as a technological grammar which breaks down and rebuilds ubiquitous experiences and life stories more and more beyond the limit. This is not a criminalization of technology but, rather, a condemnation of lifestyles which lose their identity and become aspatial. Thus, conserving memories of the past or creating reputation become hybridized and twisted behavioural realities, which concur to structure a strongly ‘oligotrophic’ nature: that of the post-human versions, that of technological mediations and organic dominions which meet the inorganic and meld with it. The authors analyse these aspects through a diachronic perspective that minimizes dialectic polarizations in order to examine the exegeses of the post-human concept within a medial representation that intensifies the discriminating and causative factors.*

DOI: 10.4018/978-1-5225-8024-9.ch006

## THE "BLACK MUSEUM" OF BLACK MIRROR, OR THE ABYSS OF CONSERVATION

Oblivion has never risen to the status of consubstantial value to every human action as in the present age. For millennia, history has been pursuing a laborious attempt to preserve memory while being aware - perhaps since the inception of mankind - that every small and significant event have an implacable enemy, which never stops threatening their foundations and corrode their appearance: time itself. If we hypothesize that time does not exist, rather being a dimension depending on the perception that each individual (and society as well as age) has of its flowing, it follows that the quicker the perception of such flowing, the harder preserving memory will be. Ancient populations, who had a dilated conception of time, elaborated some strategies to crystallize it: that is, the invention of writing to prevent the inconsistency of oral tradition; or the realization of objects meant to act as memory keepers; or, finally, realizing buildings and places dedicated to such conservation. The relationship between time and the crystallization of its memory had been continuously expressed through a mechanism of concretization: to give a "solid" body to an action and to enclose it in a durable "envelope" (e.g. papyrus scrolls, books, statues, tombstones carvings) was equivalent to ensuring the effective transmission of a fact from one generation to another. Nonetheless, as technology kept advancing, two aspects changed: on one hand, perceiving the time-flowing as faster progressively strengthened itself and the knowledge of events transmitted from one place to another with increasing rapidity; on the other hand, the object of memory became more and more fragile every day. Photography, for example, has exponentially multiplied the images (let us consider the works of art) but, in so doing, it dug an ever deeper line between who in the past could observe a painting only by seeing it in its place, and who - from a certain moment in history - could enjoy it *in absentia* (Benjamin 1936 (ed. 2014), p. 14). We are talking about a process that took millennia, reaching the present time with an appearance showing signs of something that has run its course. Today is a digital age that already shows marks of obsolescence, in which the virtuality of the image requires a memory capable of preserving it more than in any other time. Yet, memory (and in our daily experience we cope with larger memory devices, both in terms of dimension and storage capability) is fatally destined to run out: on one hand because a technology that keeps evolving at a rapid space makes obsolete those media that could have worked perfectly in a very recent past, as well as the possibility of indefinitely accessing them (images, documents, videos); on the other, because the image hypertrophy and the even more metamorphic influence of trends sweep away what (with the same sudden clamor) had become trendy no later than yesterday. The mechanism of repression is at the same time the antidote to the proliferation of sensory stimuli

and the index of 'crumbling' to which the consciousness of the past and of the present is unavoidably subject.

Of this irreversible de-materialization, which is not necessarily a negative phenomenon at all, the selfie is the most characteristic expression (Storr, 2018). We could initially consider it as a kind of art form, both popular and trans-social, which marks the total unawareness of what actually is an artistic product. It is a representation of the self which needs a very precise situational background (although not one that may correspond to the real state of things) and, by definition, also needs a feedback from the 'network'. It replaced the old self-portrait; or rather, made it possible for everyone, while redefining its criteria: once, self-portrait was the exclusive feature of the artist (Ferrari 2002; Boatto 2005) who, within this act of creation, set its own identity and transmitted it to the future. This identity bore an aspiration to leave a durable and eternal memory of the self, not only in the work but also 'inside' the work. The artist was the only living man capable of giving durability to his features and those of his models. Today, since when the smartphone became the most popular daily object (which at the moment it is less than a decade), the world is constantly posing in front of a touchscreen and an integrated camera. The self-portrait was almost a silent dialogue of the artist with himself. The selfie instead, act of narcissism and exhibitionism itself (Riva 2016; Di Gregorio 2017), is never a 'closed' image: rather, it demands to be shared on social networks so that that formally unrepeatable *hic et nunc* loses its uniqueness repeating itself indefinitely. In the past, only the critique had the ability to express value judgment on a work, building around it an exegesis that could provide the public with some points of reference enabling the understanding of the figurative text (if not an exhaustive reading key). On the other hand, selfies (and generally any material intended for sharing on social network) have deprived the media function of the de facto critique, by entrusting the censorship power to every user of the virtual platform: the like (together with the visualizations of a given material, as well as the quantity of the followers and the resonance that a page or a channel may have beyond such virtual context) is the expression of this new power of criticism, as artificial and short-lasting as an object destined to be sooner or later removed can be. By its own nature, the selfie is not designed to linger within memories unless a new experience erases the memory of the previous one. This is the aspiration to create a monument of one's self within the ubiquitous space of social media (Codeluppi 2015), for a reduced time. Rembrandt painted, drew, engraved hundreds of self-portraits as in a sort of chronological time-lapse which allows to observe in a few minutes the enthusiasm, the apogee of glory, the anguish of mourning and the warning of the imminent end... each carved with its own features and expressions pertaining to that particular moment. If even one of those effigies were missing, the entire imagine-autobiography would collapse. Selfie, on the contrary, is the erasure of memory: it replaces the old (sometimes destined to

end up in the bin folder of the device and disappearing without a trace), and almost never comes to the realization of printing (as most of every digital picture does).

Images that become more and more pervasive, as well as a less and less durable memory: if this is the current condition of the present, then which is the precautionary measure – assuming that there is any – for a future without past? Among the institutions that still play the role of protection from the oblivion of memories, the museum is perhaps what that has been most successful in keeping intact the line of continuity between our past and present, in an attempt to preserve past objects and delivering them to future generations. With few changes, museums withstood the destruction of ideas, the collapse of empires and the sunset of fashions. Perhaps it still retains authority and attractiveness precisely because of its unsuitability be 'current'. Over a century ago, Futurism theorized a liquidation of the museum, assimilating it to cemeteries and "public dormitories where it rests forever alongside hated or unknown beings!" (Marinetti 1909, in Birolli 2008, p. 14). Once survived the avant-gardes storms, museum reinvented itself as a temporary, but constantly evolving place: on one hand, historical exhibitions (often 'museums of museums', marked by the high untouchability of their ordering, bound to equally untouchable and intangible containers) are forced to constantly move their collections, unburying from warehouses works which - maybe for a matter of space - cannot be enjoyed permanently; or to intervene more on the additional services than on the exhibition routes. On the other, new museums 'play' on the experiential, and sometimes ludic value of the visit. Public funding aimed at the maintenance of these places of worship and culture, even in the richest realities, have radically thinned out: it is up to private initiative (Bishop 2017, pp. 15-19) to fund museums and allow their survival (often bartered with a return of image or a progressive personalization of the institution).

In reality, the museum's survival not only feeds on economic resources: at its core must be present a rethinking of the status, an opening that overcomes the logic of compulsive collection – since decades many public museums (especially the Italian ones) no longer acquire new works. An opening that opens itself up to the city as an extension of its own living space. Calum Storrie theorized that the logic of the museum, instead of remaining rooted within the classificatory rationality inherited from the Enlightenment and to the rigidity of the displaying criteria for works, must meet a certain dose of 'delirium':

All museums carry within them the seed of their own delirium. To a greater or lesser degree they can be re-interpreted in terms of the breakdown of control and classification. This can happen in a number of ways: an obsessive level of control can be self-subverting, while its opposite, a state of chaos, can up-end perceived notions of the museum. Messiness, category confusion, theatricality, elaborate historical layering and museological fictionalizing can, singly or in combination, go towards creating the Delirious Museum. (Storrie 2006, pp. 2-3).



On one hand this theory represents a paradoxical and utopian distancing from the traditional concept of 'museum', that is a place for the definition of the de-contextualization (objects of the most varied origin and conceived for spaces that have nothing to do with their current location, but still able to find safe harbor in a museum, a guarantee of their transmissibility to the future). On the other hand, however, it effectively describes that 'hoarding attitude' that marks private collection much more than the museum as an organism open to fruition (after all, most of them are now saturated and have exhausted their economic and financial assets). If we assume that the multiplication of images on social media and as the acquisition of objects driven by an impulse to repeat belong to the same behavioral family, we could say that a significant part of the actions within social sharing are based on a museum-like *ratio*. Several years ago, Intel developed for Facebook an application named *The Museum of Me*. It allowed the users to transform their experiences (crystallized into photographic images) and exhibit them within a museum virtually accessible to anyone who had access to the contents of profile: in some way, this gave solidarity to the two worlds. Yet, the collection delirium often borders on the edge of an abyss, the exact opposite of sociality and sharing.

The last instalment (the sixth of the fourth season) of Black Mirror, the lucky TV series by Netflix broadcasted since 2011, is probably the node to which the multiple themes of the present anthology converge. Indeed, the noir in its broader sense shrouds every episode in a dark vision; a dystopic, yes, but not improbable hyper technological future. It is maybe not a coincidence that the single stories, each independent yet ideally bound to the others, finally lie in a strange museum, located in the most remote corner of the desert and close to a solitary – and apparently abandoned – petrol station. If we read between the lines (or look beyond the panes of this exhibition), it is interesting to observe that the series present a projection which involves not only the relationship between man and technology (in a time where even emotions will be controlled via smartphone apps), but also – in this case – the future of the very 'museum' idea, as well as the conservation logics. The moral of the story appears to be that technologies themselves are not good or bad: rather, it is the way they are used that determines their corruption and, consequently, their destructive effects on society. In the case of Black Museum, this degeneration has a name: Rolo Haynes, director of the permanent exhibition. Partly host, partly director and partly unscrupulous speculator, Haynes moved from his past life failures to managing a sort of memorial of horrors: a museum which, similarly to the Black Museums of the most famous world police forces, gathers material evidences of bloodcurdling crimes. The objects were originally meant for other uses, but eventually unleashed atrocities which Rolo himself brought about. A disarmed museum by now, after its past splendours, which on a sweltering day receives a single visitor.

If we linger more carefully on the finds displayed in the cases (now isolated from their context of use, as 'ready-made' or conceptual works), we realise that the entire collection of Haynes' museum is the whole of the object-symbols appeared in the previous episodes. It is possible to glimpse at the DNA scanner (resembling a 3D printer) owned by the sadistic programmer Robert Daly, antagonist in the pilot episode of the last season, USS Callister. Daly used the scanner to imprison virtual copies of his colleagues within a modern videogame inspired by Star Trek. Next to it, a lollipop that bears the saliva of the son of James Walton – Daly's boss –, whom Daly imported and virtually 'murdered' in his father's presence. In a case at the other end of the hall, a broken tablet still covered in blood is the low-technology 'weapon' that appears in the following episode, Arkangel, used by an adolescent Sara to hit her hyper protective mother, Marie. It is also the control centre for Arkangel, an implant that allows parents to see in live streaming what their kids are watching, other than filtering frightening or 'inappropriate' images. Inside another case, another thrilling 'relic' (almost come out from Damien Hirst's Adam and Eve Together at last) is the bathtub – covered in blood as well – in which Mia, the main character of Crocodile (third instalment of the same season) committed her murders.

What Haynes shows to the interested visitor, on the other hand, are his personal 'creations' of which he is rightfully proud, dating back to his previous experience as a "Neurological Research Recruiter" for TCKR (a disputable company specialised in neurotechnology). There is a luminescent cap – actually a neurotransmitter of perceptions – whose use had been suggested to Dr. Peter Dawson to diagnose (in a truly empathic experience) his patient's diseases. There is a seemingly ordinary stuffed monkey, actually being the inert body that held the conscience of Carrie, a young mother ended up in a vegetative state after a car accident, initially implanted inside the head of her husband, Jack. Finally, there is the main attraction of the museum: a hologram of Jack Clayton, a man unfairly sentenced to death and to whom Rolo Haynes had extorted the promise of donating his virtual and sentient image to 'science', in exchange for helping his family. That ghostlike image, in a terrifying exhibition of 'augmented reality', becomes a game with which a number of perverts, supremacists and racists visiting the museum can interact, inflicting an endless torture upon the victim and reducing him to a more and more atrocious catatonic state.

Rolo Haynes' Black Museum is actually a postmodern Wunderkammer, a Cabinet des Curiosités where the director-proprietor has patiently gathered the mementos of his own science failures. Every object – as in the collections of wonders in baroque ages – is defined by a bizarre, unique and sometimes horrific condition which in some way reproduces the chaos or the lucid folly of its collector. Everything is then shrouded in the black spirit of the protecting divinity, which seems the source of inspiration for such technological objects that ended their productive cycle amidst

the panes. It is to the Marquis de Sade's memory that the psychopathological Haynes and its 'creature' Peter Dawson hark back. There is a page of Pierre Klossowski that we would like to meta-quote, which seemed to be written precisely for the obsession that suddenly invades the medical-clinical: <<"the villain can conceive the effect of his violence on others" only perceiving the others' bodies as own and, at the same time, perceiving its own body as unknown to himself>> (Campioni 2009, p. 70 (the quote between " " was extracted by Klossowski ed. 1970, p. 48)). The same concept of the post mortem torment inflicted by the cruel upon its victim is, too, a far echo of the Divine Marquis. The not-guilty Jack Clayton, forced to withstand a more and more atrocious pain and to renew each time his own execution without the relief of death, bringer of redemption, is quite the partner of the victims of the cruel Saint-Fond. A character in Juliette, the noble was not happy with the 'simple' massacre of his victims: as killing them would be too easy, Saint-Fond invents a system where the victims must sign a devil's pact so that, even if innocent, they will suffer endlessly for eternity.

In some way, the "Black Museum" of Rolo Haynes symbolises what the visitor demands from a museum today; or better, from a specific kind of museum: constantly new emotions, showing objects that (like fetishes) link to extreme experiences, the bulimia of "I was there", often certified through a selfie or a post on a social. In some way, the failure of Haynes' museum operation resides in the fact that the exhibition is unable to renovate itself: gathering evidences derived from a twisted use of technology finally tires the guest, who in turn is continuously influenced by the programmed obsolescence of his own technology and permanently 'forced' to look for a new one. The "Black Museum" ends in smoke, as the curiosities inside its panes: while the human being does not want to assign this destiny to the memory of objects, the same destiny inevitably awaits any society enslaved by technology.

## **If the Human History Is a History of Technologies**

Is ours a society imbued with technology? A positive answer seems inevitable. If only because a vast scientific literature suggests that our history is measured by technological achievements, such as the first lithic industry (Soffer, Adovasio, & Hyland 2000), clothing (Nucera 2014), writing (Fischer 2003), movable type printing, internet (Castells 2002). For the sake of clarity, it must be stressed that this is not a technocentric reading. In our opinion, in fact, such an interpretation would considerably limit the understanding of a phenomenon which, depending on the adopted perspective, can enhance or not the use of the technology itself. This aspect acquires further significance if we consider the technological changes which pervasively affected the routines of daily life, such as mobile phones (Greenfield, 2006). As Greenfield himself (2006, digital edition) suggested, "Although aspects

of this vision have been called a variety of names – ubiquitous computing, pervasive computing, physical computing, tangible media, and so on – I think of them as facets of one coherent paradigm of interaction that I call everywhere. In everywhere, all the information we now look to our phones or Web browsers to provide becomes accessible from just about anywhere, at any time, and is delivered in a manner appropriate to our location and context”. It is clear that this aspect cannot be explained with simple terms, and we only give a brief reference about it. What is striking, however, is the need to reconcile two rather different points of view, often treated in a dichotomous manner: on one side technocentrism and, on the other, ecocentrism. It is our opinion that technology and socio-anthropological issues should be considered as two interpenetrating levels, where next to the use of tools lie the levels of contingency and unpredictability (Hacking 1999). This is precisely what happens in “Black Mirror”, where the technologies and their uses oscillate between dystopian, utopian, hyperbolic frames and a reality not too different from our current one in which, for example, feedback-related choices and behaviors are becoming common, almost normal. Yet, what would happen if the review systems affected choices related to human relationships?

## **The Simulacra of Reputation**

The first episode of the third season, “Nosedive”, describes a society ruled by the 5-star feedback system and basically made up of more or less ‘starred’ individuals. Though being a recurring theme across the series, probably the most fascinating aspect is the use of a technology that unleashes relational hypoxia in situations where complacency and a tampered, adulterated genuineness appear to be the only tools of many Mastro don Gesualdo (the famous character of a novel by Giovanni Verga) who try to climb the hierarchies in an obsessive crave for feedbacks.

The most interesting aspect is that we are actually not very far from reality. The episode builds a hyperbole about the use of social networks, whose functional structure is then projected on the social level. This provokes dynamics that could be defined almost naïve; that is, behavioural modes that are totally disconnected from the real environment and counter interpretative with respect to real impulses.

In the same way, the society imagined in this episode is characterised by its oligotrophic processes; in other words, actions governed and oriented by other people’s expectations.

It looks like a terrifying game. Individual hopes and expectations are kidnapped and held hostage by a schizophrenic and dangerously deviant evaluation system, as seen towards the end when Lacie – the main character – accepts a ride from Susan, a trucker, former starred person now in disgrace.

It is here that the episode takes on different tones, which mark a narrative turn of direction that becomes gradually closer to reality until the catharsis moment depicted in the final scene: Lacie is finally free to do something that is humanly interesting: insult somebody without risking a negative score.

In the social world this happens constantly! We create a sweetened and simplified representation of our real image – often with an excess of unaware levity. A levity which can evolve into more or less serious contingencies: from identity theft to loss of work, or even what we publish, which can serve as a variable to evaluate a potential candidate in a job interview.

If we shift the focus into the world of real social evaluation, the feedback system is broadly used especially within the e-commerce and service sectors. This is a good moment to recall an old Durkheimian intuition: what role do collective representations play in the identity construction? This is a thorny question (Durkheim 1898; see also Jovchelovitch 2001; Pickering 2002). If the builders of leaders aimed to build solid personalities, today's leadership seems more oriented towards building identities which are only marginally infused with vanity! In "Nosedive" reputation is work, social life, the neighbourhood in which one can live, and the healthcare that can be accessed! Reputation is everything and is based on a social peer-review! But this, too, is not new: the processes of reputation construction are, in fact, social mechanisms ruled by norms and codified even within cultures that are very far from ours (Yu, & Singh, 2000; Pujol, Sangüesa, & Delgado 2002; Sabater, & Sierra 2002; Hogg, & Adamic 2004; Rindova, Pollock, & Hayward 2006; King, & Whetten 2008; see also Castelfranchi, Conte, & Paolucci 1998).

In this sense is extremely clear how the swing between individual benefit and the sense of belonging to a more or less numerous group, as Hogg (2001) underlined, ends up defining criteria and peculiarities needed to enter a group, depending on the degree of similarity and sharing of goals with the group itself. But why do we do this? Why do we train our behaviours, making them pleasant to the eyes of other people? Is it a sense of belonging? In merely Machiavellian terms the very concept of group is, by its very nature, kleptocratic: it requires that someone, more or less consciously, must accept to be robbed of something (normally a small portion of free will). This, however, does not answer the question: why do we do it? Because, easily enough, doing this allows us to obtain benefits that we could never obtain individually, both quantitatively and qualitatively speaking.

Therefore the commitment of Lacie, as can be easily inferred during the episode, increases depending on the perception of a potential gain. In the light of this, and of the Machiavellian reasoning upon which is based, it can be more correctly defined as acquiescence. That is, an acceptance that derives either from an imposition or from the idea to get something in return. However, is the acceptance to decline one's behaviour translatable as a form of manipulation? Probably yes, and as Volker

Sommer (1998) pointed out, the history of human beings and many other species is a story based on deception, or behaviours which are bent and tamed in order to achieve advantages.

## CONCLUSION

In "Black Mirror", technology takes on peculiar meanings and forms. As described in the previous pages, the impact of technology and its not only 'scenic' pervasiveness constitute the main theme of each episode. Still, as emphasized by the creators of the series (Charlie Brooker and Annabel Jones), technology never assumes evil forms. Not only is the point of view of view reasonable and shareable, but it is also a way to underline an aspect that is often forgotten. The functions of any technology are the result and use of its creators or users. It is essentially the man who establishes the ways and contexts of use. Although this is a trivial explanation, it is worth pointing out that our evolutionary history is made up of progressive technological advances. The appearance of the *Homo Sapiens* is characterized by a series of indicators demonstrating the inception of new and evolved cultural *facies* – specifically since the Upper Paleolithic (from 40,000 to 10,000 years ago) – which will have consequences that are not simply technological but also social, as these areas are deeply interlinked. Recurring to Potts' theoretical frame (1996), it is precisely from this period that the 'cultural addiction' of the *Homo Sapiens* becomes irreversible and subsequently incorporated into the rich exchange between individual and socio-environmental affordances, in the evolution of tools and behaviors and in the adaptive possibilities they can achieve. Culture "is simply the species-typical and species-unique 'ontogenetic niche' for human development (Gauvain, 1995)" (in Tomasello, 1999, 79) and it is precisely within this niche that we managed to achieve a climax of "phenotypic flexibility" (Richerson, Boyd 1995) that will allow it taming or softening environmental pressures first, and then developing complex symbolic codifications and realizing (or thinking) truly ubiquitous realities.

In "Smart Mobs: The Next Social Revolution", Howard Rheingold (2007, *digital edition*) writes: "Since my visits to Tokyo and Helsinki, I've investigated the convergence of portable, pervasive, location-sensitive, intercommunicating devices with social practices that make the technologies useful to groups as well as individuals. Foremost among these social practices are the "reputation systems" that are beginning to spring up online—computer-mediated trust brokers. The power of smart mobs comes in part from the way age-old social practices surrounding trust and cooperation are being mediated by new communication and computation technologies".

However, every technology has a cost, regardless of the domain to which it belongs: in “Black Mirror” it seems that the ‘bill’ gets constantly updated. The two episodes we have dealt with in this contribution seem to describe exactly the technological (and hyperbolic) trajectory which affects our society and which, more than ever, is the subject of intense bio-political debates. Regardless of the narrative exasperation, the entire TV series moves between ethical dilemmas and moral principles. This aspect made the series successful, as they dramatically fluctuate between reality, fiction and cognitive dissonances.

## REFERENCES

- Benjamin, W. (2014). *L'opera d'arte nell'epoca della sua riproducibilità tecnica*. A cura di Francesco Valagussa con un saggio di Massimo Cacciari. Einaudi. (Original work published 1936)
- Bishop, C. (2017). *Museologia radicale. Ovvero, cos'è “contemporaneo” nei musei di arte contemporanea?* Johan & Levi.
- Boatto, A. (2005). *Narciso infranto. L'autoritratto moderno da Goya a Warhol*. Laterza; doi:10.1145/988772.988811
- Campione, F. P. (2009). Per un'estetica del crimine: da Sade a Lombroso. *Premio Nuova Estetica*, 23, 65-90.
- Castelfranchi, C., Conte, R., & Paolucci, M. (1998). Normative reputation and the costs of compliance. *Journal of Artificial Societies and Social Simulation*, 1(3), 3.
- Castells, M. (2002). *The Internet galaxy: Reflections on the Internet, business, and society*. Oxford University Press. doi:10.1093/acprof:oso/9780199255771.001.0001
- Codeluppi, V. (2015). *Selfie. Un monumento per tutti*. Consorzio Festivafilosofia, Modena-Carpi-Sassuolo.
- Di Gregorio, L. (2017). *La società dei selfie. Narcisismo e sentimento di sé nell'epoca dello smartphone*. FrancoAngeli.
- Durkheim, É. (1898). Représentations individuelles et représentations collectives. *Revue de Metaphysique et de Morale*, 6(3), 273–302.
- Ferrari, S. (2002). *Lo specchio dell'Io. Autoritratto e psicologia*. Laterza.
- Fischer, S. R. (2003). *History of writing*. Reaktion Books.

- Greenfield, A. (2010). *Everyware: The dawning age of ubiquitous computing*. New Riders.
- Hogg, T., & Adamic, L. (2004). Enhancing reputation mechanisms via online social networks. In *Proceedings of the 5th ACM conference on Electronic commerce* (pp. 236-237). ACM.
- Jovchelovitch, S. (2001). Social Representations, Public Life, and Social Constructionism. In *Representations of the Social*. Oxford, UK: Blackwell Publishers.
- King, B. G., & Whetten, D. A. (2008). Rethinking the relationship between reputation and legitimacy: A social actor conceptualization. *Corporate Reputation Review*, 11(3), 192–207. doi:10.1057/crr.2008.16
- Klossowski, P. (1970). Sade mon prochain. Sade prochain mio. Preceduto da “Il filosofo scellerato”. SE.
- Marinetti, F. T. (1999). Manifesto del Futurismo. In *Manifesti del Futurismo*. Abscondita.
- Nucera, S. (2014). *Corpi in-tessuti: Evoluzioni e mutamenti delle pratiche vestimentarie*. Aracne.
- Pickering, W. S. F. (Ed.). (2002). *Durkheim and representations* (Vol. 22). Routledge.
- Potts, R. (1996). *Humanity's Descent: The consequences of Ecological Instability*. New York, W.: Morrow.
- Pujol, J. M., Sangüesa, R., & Delgado, J. (2002). Extracting reputation in multi agent systems by means of social network topology. In *Proceedings of the first international joint conference on Autonomous agents and multiagent systems: part 1* (pp. 467-474). ACM. 10.1145/544741.544853
- Rheingold, H. (2007). *Smart mobs: The next social revolution*. Basic books.
- Richerson, P., & Boyd, R. (1995). *Not by genes alone: How culture transformed human evolution*. The University of Chicago Press.
- Rindova, V. P., Pollock, T. G., & Hayward, M. L. (2006). Celebrity firms: The social construction of Sabater, J., & Sierra, C. (2002). Reputation and social network analysis in multi-agent systems. *Academy of Management Review*, 31(1), 50–71. doi:10.5465/amr.2006.19379624
- Riva, G. (2016). *Selfie: narcisismo e identità*. Il Mulino.



Soffer, O., Adovasio, J. M., & Hyland, D. C. (2000). The "Venus" Figurines: Textiles, Basketry, Gender, and Status in the Upper Paleolithic. *Current Anthropology*, 41(4), 511–537. doi:10.1086/317381

Sommer, V. (1998). *Elogio della menzogna. Per una storia naturale dell'inganno*. Bollati Boringhieri.

Storr, W. (2018). *Selfie: how we became so self-obsessed and what it's doing to us*. The Overlook Press.

Storrie, C. (2007). *The delirious museum: a journey from the Louvre to Las Vegas*. IB Tauris.

Tomasello, M. (1999). *The cultural origins of human cognition*. Harvard University Press.

Verga, G. (2011). Mastro Don Gesualdo. *The Bur*.

Yu, B., & Singh, M. P. (2000, July). A social mechanism of reputation management in electronic communities. In *International Workshop on Cooperative Information Agents* (pp. 154-165). Springer. 10.1007/978-3-540-45012-2\_15

## Chapter 7

# Using Digital Technologies in the 21st Century Classroom: How Video Games Support Dynamic Learning Opportunities

**Carol-Ann Lane**  
Western University, Canada

### ABSTRACT

*Scholars have acknowledged the potential contribution of video gaming to complex forms of learning, identifying links between gaming and engagement, experiential learning spaces, problem-solving, strategies, transliteracy reflectivity, critical literacy, and metacognitive thinking. Using a multiliteracies lens, this multi-case study examined the experiences of four boys engaged with video gaming in two different contexts: a community centre and an after-school video club. In this chapter, the author describes how these four boys developed their multimodal ways of learning by engaging with visual perspectives of video games.*

### INTRODUCTION

Interpretations of the cultural meanings made by these boys, based on their individual unique experiences engaging with video games, can provide readers with insights into how to approach adolescent aged boys' literacy development. My methodological approach documented what boys are saying, as much as possible, which is currently understudied in the literature surrounding boys and their video gaming practices. Studying the ways in which boys make meanings through multimodal ways of

DOI: 10.4018/978-1-5225-8024-9.ch007

learning can offer insights into strategies for cyber culture that can potentially reinvent traditional literacy pedagogical boundaries and establish new ways and practices for building knowledge. The adoption of video games as an alternative classroom multiliteracies resource is acknowledged in technology and multiliteracies discourses as a strategy for meaning-making and developing cultural knowledge (Cope & Kalantzis, 2009; The New London Group, 2000). Scholars explained the complex forms of interactive visuals—intertextual and multimodal—that are part of video games, and key to inviting players to understand a variety of texts in a variety of circumstances. This chapter provides an overview of a multi-case study I conducted about four boys' out-of-school video gaming practices which may support their meaning-making. There were a number of findings emanating from this study, including the following: (i) boys use their video gaming practices for meaning-making and collaborative efforts in order to gain an understanding of several knowledge processes (such as decision-making, predicting, analyzing, strategizing, etc.), (ii) boys extend and apply their cultural knowledge as creative innovators, producing and publishing YouTube instructional videos for video game players and designing video games for a history project, (iii) boys demonstrate peer mentoring through storytelling, face-to-face interactions or in their online community of practice, (iv) boys make meanings using metacognitive literacy skills in a variety of ways, and (v) boys focus on cultural preservation and narrative storytelling. Cyberculture continues to evolve, for example video games, representing many forms of literacy, yet video games are met often with concerns when introduced as a pedagogical strategy. While acknowledging concerns related to video gaming, such as negative identity construction, violence, distraction, and time commitment for integration, this chapter seeks to contribute to the scholarly discussion about the use of video games in classrooms by explicitly considering the ways in which gaming may support boys' meaning-making and cultural knowledge.

## **BACKGROUND\_**

Using a multiliteracies lens, this multi-case ethnographic study examined the experiences of four boys engaged with video gaming in two different contexts: a community centre (Albert & Jeffrey) and an after-school video club (Mike & Brian). The case study helped me to gain an understanding of the nature of boys' behavior and learning in social settings while they engage in video game play. Studying the ways in which boys make meanings through multimodal ways of learning can offer insights into strategies that can potentially reinvent traditional literacy pedagogical boundaries and establish new ways and practices for building knowledge. which can offer insights to how they constructed cultural knowledge and meaning-making.

## **The Boys in My Study**

Four boys participated in my multi-site study of two ethnographic cases. First, I briefly describe two of the boys who were included in the community centre case; second, I describe the other two boys who were included in the after-school video club case.

Upon meeting Albert (the community centre case), I observed that his behavior appeared to be very quiet, never seeming to talk to anyone. Albert, a 14-year-old adolescent, was tall and had a thin physical stature. I observed him to be very courteous and respectful to me and to other students. The other students, not part of the study, I observed as being loud and very boisterous; at times, I noticed them pushing each other and yelling. I observed Albert, who was generally focused on his video gameplay and tended not to mix with the other youth at the centre. For Albert, the community centre did not appear to be a formal place where he received much useful guided practice – either experiencing or conceptualising (Cope & Kalantzis, 2009; The New London Group, 1996) for his designing and redesigning knowledge processes. More specifically, I observed his meaning-making, such as problem-solving and analyzing, present in his independent play and use of online surrounding networks. Even if other youth were conversing with him, he would maintain his concentration on his video gameplay, nod or talk to them, but without moving his eyes away from the computer screen. Albert generally maintained a consistent routine: he would come into the video games room daily; used gestural representations by walking quickly over to the table, pulling out a chair to sit down and claim the same computer (Cope & Kalantzis, 2009). Albert explained to me that he would often play certain video games to practice his problem-solving and analytical skills and then access surrounding online networks to interact with other gamers or peers by demonstrating what he had learned independently. I observed that he did not share these designing and redesigning knowledge processes with peers at the community centre.

The second participant in the community centre case was Jeffrey. When I first met Jeffrey, a 15-year-old adolescent, I noticed that he was slightly shorter, but larger in physical stature than Albert. I observed that Jeffrey, like Albert, did not seem to be social with the other individuals at the community centre. He frequently conveyed his gestural representation (Cope & Kalantzis, 2009) through his facial expressions, which appeared to be frowning or agitated when other noisy students were in the computer video games room. I observed Jeffrey to be very quiet and introspective in his actions. Although observations of Jeffrey's personality would be difficult to justify and would require further investigation for a future study, I frequently noticed in later observations and casual conversations with him that he preferred not to interact much with others. The community centre did not seem

to offer Jeffrey opportunities for the ways he made meanings during his learning processes—either experiencing or conceptualising (Cope & Kalantzis, 2009; The New London Group, 1996). During observations and conversations, Jeffrey revealed aspects of his mastery of several video games, practices, and particular discourses such as storytelling—an example of oral language (Cope & Kalantzis, 2009).

During my fieldwork, Jeffrey only engaged in conversation with me when other students were not in the video games room area. I was not aware of any particular reason, and wanting to be sensitive and at the same time objective, I listened to him. Early in my fieldwork, Jeffrey requested, as a participant in my study, that he would prefer to talk about video games with me, if I was willing to listen, rather than play the games. One of the reasons he explained to me was that the available games on the video games room computers were not the narrative-driven video games which he preferred to play at home, where likely most of his experiencing occurred. Jeffrey was highly articulate in his conversations with me, often telling stories about the video games he played, demonstrating an example of drawing on the oral language representation (Cope & Kalantzis, 2009). The community centre setting became an important factor for Jeffrey's behaviours. He always appeared to be conscious of his surroundings (Wolcott, 1987)—the room, its function and people interacting around him. He would often take up gestural representations with his abrupt body language of walking into the video games room, turning his body, and then leaving if other kids were in the room. At the post observation interview, Jeffrey shared that he had autism, which may have accounted for this behavior, although I did not make previous connections between his autism and his lack of success in engaging with others. Moreover, it also did not appear to impact the way that he provided thoughtful descriptions and stories about the games he played, often talking for long periods with me. Neither Albert nor Jeffrey interacted socially with peers or each other at the community centre.

The third participant, Mike (after-school video club), was a tall 15-year-old adolescent, with a thin physical stature. Mike was the president of the after-school video club. I observed him as friendly and respectful to me and to other students in the club. Mike chatted with everyone, ensuring all were enjoying playing the games. During my observations, Mike generally focused on his gameplay but still found time to bond with other players. He also appeared to be interested in mentoring other players. He would frequently pause a video game sequence during a competition to instruct other players on gameplay functions, strategies, or problem-solving. In doing so, Mike demonstrated his knowledge and willingness to share his experiences and meaning-making with others. Thus, the after-school video club appeared to be a formal and informal place for Mike to design and redesign his knowledge processes, providing him opportunities to experience and conceptualise with others (Cope & Kalantzis, 2009; The New London Group, 1996). Mike's meaning-making also emerged from his

rich collaborative interactions in the online surrounding networks and communities of practice (Alexander, 2009; Squire, 2013). He constantly exchanged strategies, ideas, and best practices with others who shared a connection and common video gaming goal with him (Gee, 2007). Being the president of the club, Mike took up his gestural representation (Cope & Kalantzis, 2009) by walking ahead of everyone, and setting up the room to organize the activities. He wheeled in the televisions and consol/vcr, turned on the widescreen overhead projector and selected the teams for gameplays. I observed that some of the boys could express themselves freely and emotionally by hugging, clapping, and cheering each other when they played the video games. The girls tended to chat with each other, eat and watch the video gameplays. Often times, Mike responded to the boisterous environment of the club by drawing on gestural representations (Cope & Kalantzis, 2009), characterized by chatting, clapping, and cheering along with the other students.

The fourth participant, Brian (after-school video club), a 15-year-old adolescent, was shorter and slightly larger in physical stature than Mike. I observed Brian to be friendly and respectful to the other students, but he did not appear as talkative as Mike. Brian frequently conveyed his gestural representation (Cope & Kalantzis, 2009) by quietly walking around the room, observing others, and asking Mike when he could be the next player in a particular gameplay sequence. During video gaming experiences, Brian was quick to share his meaning-making experiences with fellow peers by explaining certain gameplay sequences. Although some of these observations would be difficult to explain without further probing in a planned future study, Brian appeared to be conscious of the high-energy surroundings in the ways he demonstrated his gestural, visual and spatial representations (Cope & Kalantzis, 2009; Wolcott, 1987). During his game playing experiences, he would draw on video game characters' functionality to jump, dance, and perform acrobatic movements on the computer screen. Some of these actions represented ways that Brian showed mastery of his skills in the video game, but they also demonstrated Brian's ability to navigate the various interplay of visuals while playing the game. Additionally, these action sequences represented for Brian some of his emotional gestures, feelings, and emotions. He would sometimes physically perform these same movements in the classroom in front of his peers, and did not appear inhibited by the surroundings, peers, or the space he occupied. In some ways, Brian demonstrated weaving his experiences with peers (Cope & Kalantzis, 2009), by openly demonstrating unfamiliar actions and texts with others. Moreover, for Brian, similar to Mike, the after-school video club appeared to be a formal and informal place for Brian to design and redesign his knowledge processes (Cope & Kalantzis, 2009). Brian appeared to be an expert in video gaming, and he would often find ways to mentor other players and share experiences. He would pause a video game sequence and guide other players in the mechanics of characters and gameplay strategies.

## **Multiliteracies Meaning-making: A Closer Look at the Multimodal Model**

To understand learners' meaning-making systems as they relate to literacy, The New London Group (2000) argued the need for a flexible and dynamic theory. Learners' meaning-making theory involves a design concept whereby learners' literacy activities moves beyond traditional print resources. The New London Group (2000), and Cope and Kalantzis (2009) emphasized that literacy discourse is based on how learners build knowledge processes and meaning by relying on a range of semiotic activities (Alexander, 2009; Gee, 2007; Gros, 2007; Gumulak & Webber, 2011; Sanford & Madill, 2007). More importantly, The New London Group (1996) suggested that the design offers a flexibility of metalanguages for learners to choose from to describe and explain patterns of meaning, including "Linguistic Design, Visual Design, Audio Design, Gestural Design, Spatial Design, and Multimodal Design" (p. 78). The New London Group (1996, 2000) and Cope and Kalantzis' (2009) multiliteracies theory of available pedagogical designs is particularly useful to my research because it illustrates the notion of learning processes based on how listeners and readers explore new meanings from the texts they encounter by relying on their experiences and using available designs or metalanguages as resources. Kalantzis and Cope (2012) remind us that multiliteracies focuses on "the learners' own meanings, [and] the texts that are relevant to them in their everyday lives" (p. 33).

The New London Group (1996) originally designed the multimodal framework, which includes various metalanguages (ways to design learning processes), to describe and interpret the design elements of different integrated meaning-making systems of multimedia texts. Since its inception, Cope and Kalantzis (2009) expanded the scope of the available designs within the multimodal framework meanings to integrate innovative, creative, dynamic and transformative elements relating to learners' social and cultural experiences. These redefinitions incorporate how the meaning has certain suggestive significance contextually and culturally for the learner in their designing process. For example, the linguistic element, renamed as written language, includes print text, digital text and oral language to represent audio text. The visual representation which can include video gaming audio text and on-screen digital text was redefined by Cope and Kalantzis (2009) to include still or moving images, view, scene or perspective. Other redefinitions shifted the audio element to include music, sounds, hearing and listening. A new tactile element includes touch, smell, taste, and any associated feelings of a physical nature. The gestural representation also related to the physical body including facial expressions, movements of hands, arms, legs, dance, fashion, ceremony, and ritual, but also includes a form of feelings or emotions. Finally, the spatial representation includes proximity, spacing, layout, interpersonal distance, territoriality, architecture and landscape. The New London

Group (1996) also emphasized the multimodal element as an asset for one to design and redesign meanings. Moreover, within this multimodal element, two key concepts exist in the form of intertextuality and hybridity, which are still relevant in their reconfigured model. Hybridity refers to people innovating and articulating established practices and conventions in new ways by using different modes of meaning (The New London Group, 1996, 2000). Intertextuality refers to how the designer interacts in complex ways with meanings and how those meanings relate to the world around them (Cope & Kalantzis, 2009). Given that The New London Group (1996) and Cope and Kalantzis (2009) emphasize the meaning maker creating and redesigning new ways of established practices within different modes of meaning, this outcome of transformation is the learning process, which transforms the meaning maker themselves. In addition to the multiliteracies framework, The New London Group (1996) offered insight for developing a multiliteracies pedagogy, which is extremely useful to my research because it connects back to my main theoretical positioning of collaborative inquiry (Vygotsky, 1978). Furthermore, the transformative elements of designing are echoed in the revised pedagogy (Cope & Kalantzis, 2009), in which the authors recognized the dynamic interaction between humans and design elements to achieve learning outcomes. Based on interaction, it may be possible to draw some new connections in our understanding of the cognitive abilities of learners, such as those proposed by some scholars that highlight spatial learning (such as Gurian & Stevens, 2010a, 2010b; Sax, 2005). Beavis (2014) sees video games as emergent cultural forms because they include stories that fuse words and images and other elements to reposition players as readers, writers, interpreters, and creators who play an active role in the stories.

Video games have become increasingly rich in multimodal elements. Games are multilayered, intertextual, and exemplify literacy with the combination of words, pictures, sounds, colours, symbols, music, light effects, and movement (Ajayi, 2011; Beavis, 2014). These interrelations of text and visual images within video games form part of a multiple semiotic system, how we use signs. Semiotic systems are relied upon by meaning-makers in their knowledge designing processes (Cope & Kalantzis, 2009; Kalantzis & Cope, 2012). According to Cope and Kalantzis (2009), Kalantzis and Cope (2012), and The New London Group (1996), the multimodal model expanded the concept of literacy toward multiliteracies by providing a framework of available designs to draw upon. Kalantzis and Cope (2012) recognized scholars such as James Paul Gee who analyzes video games as new forms of literacies that help learners navigate multimodal forms of narratives. Part of Gee's analysis includes learners as producers of knowledge, learners as mentors, and learners' extensive use of multimodal designs (Kalantzis & Cope, 2012).

Video games are multimodal and represent complex forms of literacy by providing a textually rich environment, from online chat rooms between players to reading,



and multiple modes of writing. Alexander (2009) argued that many of these games require high levels of reading, writing, and critical thinking. These types of video games offer multilayered literacy components, presenting players with opportunities to make sense of the interplay between text and visuals (Alexander, 2009; Beavis 2014). As J. P. Gee (2007) has long argued, “good games are problem-solving spaces that create deep learning, learning that is better than what we often see today in our schools” (p. 10). Beavis (2014) also urges educators to recognize the privileged place that students give to video games as a form of popular culture. She also sees video games as emergent cultural forms because they include stories that fuse words and images and other elements to reposition players as readers, writers, interpreters, and creators who play an active role in the stories.

## **Applying a Multiliteracies Pedagogy**

In order for the multiliteracies theory to be successful in the literacy domain, The New London Group (2000) emphasized the need for a pedagogy to supplement what teachers do by considering “how the human mind works in society and classrooms, as well as about the nature of teaching and learning” (p. 30). The Group also told us that humans develop knowledge socially, culturally, and contextually through collaborative interactions with others of diverse backgrounds, capabilities and views while engaged in common practices within a community of learners (Wenger, 1998). Specifically, The New London Group (1996) addressed the question of how learners engage in common practices by applying four methods of instructional strategy: situated practice, overt instruction, critical framing, and transformed practice. With instructional strategy in mind, Cope and Kalantzis (2009) reconfigured the pedagogy to include experiencing, conceptualising, analysing, and applying.

## **Experiencing**

Experiencing represents the view that learners’ cognition is situated, contextual and cultural (Kalantzis & Cope, 2012). Learners immerse in meaningful practices within a community of other learners. According to Cope and Kalantzis (2009), and certainly useful to the aim of my research, learners play multiple roles based on their experiences. Cope and Kalantzis (2009) also recognize the pedagogical weaving between school learning with practical out-of-school experiences that are based on individual interests (Kalantzis & Cope, 2012). An important point that I also agree with, which needs emphasizing, is how these experiences interconnect culturally. Learners experience what they know by being reflective and by bringing their own experiences, interests, perspectives, and ways of understanding the world. Cope and Kalantzis (2009) explain how learners experience the new by being “exposed to

new information, experiences and texts” (p. 18). This experiencing process (Cope & Kalantzis, 2009), resembles a form of collaboration (Vygotsky, 1978), involving learners’ willingness to take risks in a new domain of action and meaning. Learners transform meaning, but also trust in the guidance of others, such as peers and teachers (Cope & Kalantzis, 2009; The New London Group, 1996).

## **Conceptualising**

According to Cope and Kalantzis (2009), the purpose of this instruction is to focus the learners on significant aspects of their cultural meaning-making experiences and facilitate thinking or building knowledge within the community of learners. They drew on the cognitive learning theories put forth by Vygotsky (1978) about how learners conceptualize their meanings by building mental models and abstract theories. They also emphasized that conceptualising implies that learners are not merely recipients of information transmitted to them from instructors, but rather active learners in the process of knowledge building.

## **Analysing**

Analysing is the part of the process in which learners establish relations between cause and effect and explain textual patterns and connections. It also adds a dimension to the knowledge process by extending the need for learners to constructively evaluate their learning and others’ perspectives. Cope and Kalantzis (2009) continued to emphasize the concept of learners creatively and reflectively innovating, but added that learners develop reasoning capacity by interrogating the interests behind a meaning, an action or their own thinking process.

## **Applying**

Applying involves the learners demonstrating their acquired knowledge and applying it to real world situations. It represents how learners develop innovative and creative ways to demonstrate their meaning-making and knowledge (Cope & Kalantzis, 2009). This step also emphasizes the importance of learners’ diversity, interests and experiences. The authors reminded educators that learners transform their meaning-making into other contexts by reflecting upon their own goals and values as they apply and revise what they have learned. Learners use their cultural insight and experiences to continuously revise their learning.

## **EMERGENCE OF CYBERCULTURE STRATEGIES FOR 21ST CENTURY LEARNERS**

### **Need for This Research**

Early research into the relationship of gaming and education focused on several perspectives, such as (a) a computer competency for science and technology, (b) a culture reproducing negative social attitudes due to video game content (such as themes of power, violence and misogyny), and (c) a source of complex learning tools for literacy (Ajayi, 2011; Akkerman, Admiraal, & Huizenga, 2009; Alexander, 2009; Foster, 2009; Gee, 2003, 2007, 2014; Gros, 2007; Sanford & Madill, 2006, 2007; Squire, 2013; Steinkuehler, 2010; Steinkuehler, Squire & Barab, 2012). As J. P. Gee (2007) has long argued, “good games are problem-solving spaces that create deep learning, learning that is better than what we often see today in our schools” (p. 10). Recent research tells us that gaming and literacy are not on opposite ends of the literacy learning spectrum but rather represent a highly unified multimodal foundation (Beavis, 2012; Gee, 2014; Squire, 2013; Steinkuehler, Squire & Barab, 2012). For example, Catherine Beavis (2012) advocated for research into gaming as presenting “new forms of telling stories ... For many children, some of their most satisfying and engaging experiences of narrative, and of the making and playing of stories comes through computer games” (p. 18). In my work, I see the games as cultural artifacts that view the learner as a co-producer of knowledge, and co-designer of their own social futures. As Gee (2007) reminded us, “good video games are good for your soul and when you play them with a thought, reflection, and engagement with the world around you” (p. 8). Given a multiliteracies aim to ensure that learners are equipped to participate fully in their own civic lives, an examination of the meaning-making processes from the boys themselves will contribute to the emerging literature in this field. According to Cope and Kalantzis (2009), Kalantzis and Cope (2012), and The New London Group (1996), the multimodal model expanded the concept of literacy toward multiliteracies by providing a framework of available designs to draw upon. Kalantzis and Cope (2012) recognized scholars such as James Paul Gee who analyzes video games as new forms of literacies that help learners navigate multimodal forms of narratives. Part of Gee’s analysis includes learners as producers of knowledge, learners as mentors, and learners’ extensive use of multimodal designs (Kalantzis & Cope, 2012).

### **Multimodal and Video Game Strategies to Support Literacy**

There is growing evidence of the Ontario Ministry of Education (OME) implementing new technologies and video games in classrooms to support literacy for 21st century

learners. As a way of responding to the multimodal needs of learners, the OME has recognized evolving paradigms and pedagogies for literacy learning and teaching. In their literacy policy guide *Paying Attention to Literacy* (2013), they recognized the need to support all learners in exploring and making sense of a multimodal, multimedia world, by using a wide variety of texts and technologies. They recognize how multimodal, digitally rich texts can provide complex learning opportunities and foster collaborative learning communities that are relevant and engaging to learners.

Reading is considered a main indicator for literacy yet some educators and scholars found that traditional print strategies for teaching spelling and vocabulary have failed to engage learners. A recent OME strategy guide, *Using Digital Technologies to Support Word Study Instruction* (Scott, 2014) advised that digital technologies, including games, are considered another way to address multimodal representations (visual, audio, and tactile) to help learners make meanings. Using these technologies in the classroom can provide opportunities for individual learning or small group collaboration. Learners control their own learning pace and difficulty. These alternative multimodal texts and games offer variety and challenge for the learners, and continuous assessment.

Moreover, the OME recognizes video games in the classroom for building literacy and numeracy skills. In one of the OME's strategic guides called *Video Games in the Classroom* (Dupl  a & Shirmohammadi, 2010), they suggest there is no research to support that video gaming is addictive and leads to violence, and that behavioural problems are rooted elsewhere (Ferguson & Kilburn, 2009; Sherry, 2001). Dupl  a and Shirmohammadi (2010) suggested that video games support experiential learning because learners actively construct meanings as they manipulate objects and variables and engage with the game's semiotic systems (visuals, sound, text, etc.). Many video games involve features that support learning, such as "pleasure, interactivity, problem-solving and creativity" (p. 1). They also suggested that many of these games offer opportunities for learners to collaborate and develop their social identities. Furthermore, another one of OME's strategic guides called *Literacy for a Connected World* (2015), suggested that learners need to integrate knowledge from multiple sources, including video and other media, to be successful. More importantly, they suggested that using technology enhances student learning. They also recommended that learners can develop thinking strategies and solve problems by participating collaboratively in online communities of practice.

## **BENEFITS AND CHALLENGES OF USING VIDEO GAMES FOR LITERACY**

Recent research indicates how video games involve a multitude of elements (such as sound, text, image, interactivity and collaboration among players) that provide a foundation for motivating gamers and learning various multiliteracies skills (see for example, Ajayi, 2011; Annetta, 2010; Gee, 2003, 2007; Van Sledright, 2002). Yet video games are complex and there remains discourses arguing that video gaming is not a good teaching tool because of issues with time commitment for both student and teacher, and common themes of competition, violence and misogyny (Ajayi, 2011; Akkerman, Admiraal, & Huizenga, 2009; Alexander, 2009; Foster, 2009; Gros, 2007; Sanford & Madill, 2006, 2007; Steinkuehler, 2010). For example, Sanford and Madill (2006), Gros (2007), and Steinkuehler (2010) explained themes of risk that boys will develop patriarchal values due to stereotypical themes embedded in video game plots and characters, thus downplaying any literacy value attached to video game activity. Within the literature, we need to reassess the popular assumption diminishing literacy content found in video games since recent studies have shown the contrary, as discussed earlier in this chapter. Gros (2007) recognized that there might be some potential for learning. Other recent scholarly literature identified challenges in the complexity of video gaming, which could downplay the value for teaching literacy. Another point raised by scholars dealt with a potential for gaining in-school literacy skills from playing video games; however, this perspective is beginning to change with Cope and Kalantzis' (2009) pedagogy suggesting that experiencing includes in-school and out-of-school experiences of meaning-makers. Further complexities exist around video games as a primary resource for educators, due to the highly stereotypical content (for examples, refer to Sanford & Madill, 2006; Steinkuehler, 2010). Gros (2007) claimed "the content of a game can produce a simplification of reality ... based on violent and misogynistic themes ... many critics suggest that what people learn from playing video games is not always desirable" (p. 23). I would argue that research has not concentrated on empirical evidence surrounding how boys may respond socially and culturally to video game content as they approach their learning. These perspectives suggest that boys are homogeneous (Connell, 1996), when in fact, they can construct different masculinities (Kaufman, as stated in Brod & Kaufman, 1994). Sanford and Madill (2006) also found players focusing on competitive aspects of video games rather than reflective practices. Interestingly, boys who play these types of narrative games outside of school could be gaining literacy skills (Sanford & Madill, 2007). Despite these arguments research recognizes that youth could learn by using video games. In this section, I will explore the idea of youth learning from video games continually echoed by emerging research that recognizes the benefits and challenges of integrating video games in the classroom

as a pedagogical strategy for 21st century students to gain literacy skills (Beavis, Muspratt, & Thompson, 2015; DeCoito & Richardson, 2016; Duret & Pons, 2016). Evidence from my ethnographic study illustrated ways that some of the boys made meanings in their out-of-school video gaming practices. Gee (2003, 2007) reminded us that learning, and teaching processes can be especially meaningful when experienced in a secondary domain, existing outside of a primary domain where learning would normally occur (such as a classroom or a textbook). I will identify some of the ways that the boys made meanings and drew on available multimodal representations and knowledge processes (experiencing, conceptualizing, analyzing, and applying) (Cope & Kalantzis, 2009) during their video gaming experiences.

### **Pre-1990 Games Associated With Narrative Elements and Books**

There are many ways for educators to think about approaching literacy learning. One is to think about video games as an alternative classroom strategy for literacy learning, which is not a new concept. Video games are a viable alternative classroom strategy for literacy learning because video games contain storylines and literacy features. Although I only introduce a sample range in this section, these types of games have existed for more than 40 years, and include a range of interactive, role-playing adventures. Some of these interactive, role-playing games include Dungeons and Dragons (Gygax & Arneson, 1974), the Colossal Cave Adventures (Crowther & Woods, 1977).

The Colossal Cave Adventures game, in particular, was the first video game to include higher literacy content. The game Adventure was introduced from 1975 to 1977 (Crowther & Woods, 1977) and was followed by Zork (Infocom, 1979). Following these games, a few years later, the game Bard's Tale (Interplay Productions, 1985), was created and the game Suspended (Infocom, 1983). Bard's Tale, similar to the Dungeons and Dragons design, was designed 11 years later as a highly integrated fantasy role-play game with a 3-D graphic interface. In contrast, a complex game called Suspended (Infocom, 1983) relied on a combination of the player's perception (such as sight, hearing and information memory) and ability to problem solve in order to save the planet.

Furthermore, the game called Zork (Infocom, 1979) "distinguished itself in its genre as an especially rich game, in terms of both the quality of the storytelling and the sophistication of its 'text parser.'" This game by Infocom (1979) was not limited to "simple verb-noun commands ('hit troll'), but recognized some prepositions and conjunctions ('hit the troll with the Elvish sword')." It also encompassed all the elements of a narrative including a setting, detailed plot, and characters. It was the first detailed, interactive video game designed in the 1970s, whereby the players

needed to discover treasure and adventure. This game was later developed into a series of books, which emphasized the narrative and literacy potential embedded in these types of video games.

## **MULTILITERACIES MEANING-MAKING: THEMES AND CULTURAL TERMS**

Table 1 represents the various domains or themes that emerged from my study. It illustrates an initial organization of cultural terms identifying domains or themes within the cases. A sample of participants' exact words verbatim provides a description to each cultural domain.

## **MULTILITERACIES MEANING-MAKING: FOUR BOYS' EXPERIENCES ENGAGING WITH VIDEO GAMES IN THEIR DESIGNING PROCESSES**

The findings emerging from my ethnographic study illustrated a number of ways that these four boys (Albert & Jeffrey, the community case; Mike & Brian, the after-school video club case) made meanings in their designing processes as they engaged with video games. These four boys' meaning-making relates to learning processes found within the multiliteracies framework (Cope & Kalantzis, 2009; The New London Group, 1996). The meaning-makers use designs or representations in their designing processes to shape, create, and innovate meanings, based on their contextual and cultural experiences. Finally, the redesigned emerges as the outcome of designing new meanings, whereby students become unique producers of new meanings and build transformed knowledge (Cope & Kalantzis, 2009; The New London Group, 1996). This transformative process of knowledge is grounded in pedagogical phases including experiencing (cognitive meanings are contextual and cultural, including in and outside of school); conceptualising (abstract thinking, concept theory building, and mental models); analysing (reasoning, relations between cause/effect, textual connections, critical evaluation of own and others' perspectives); and applying (applying knowledge to real world situations, innovative, and creative thinking).

*Table 1. Cultural Domain Taxonomy*

| Cultural Domains  | Sample Cultural Terms Made by Participants   |
|---|--|
| Decision-making   | A lot of decision-making; thinking ahead too; different decisions to get different outcomes  |
| Problem-solving   | Teaches you how to analyze things; sort of helps them in solving problems; good at puzzles; build different things   |
| Learning strategy   | Being smart in, I prefer strategy; reading your opponents; tools, better tools, mechanics; predict psychological aspects   |
| Training, teaching others, teamwork   | Plot and characters I talk a lot to people about; where your peers are the best training partners; I mean collaboration; I try super hard to have them cooperate but it never works, with friends you know them, you can cooperate with them   |
| Exploring or experiencing emotion by interacting with narrative focused games | This game is interesting because it explored this feeling; I really enjoy games like that explore metagame ideas, or like emotional ideas- interactivity; the game sort of mixes emotional storytelling along with great gameplay; emotions pushing the boundaries of games; change story, non-linear storyline  |
| Sharing moments by learning and understanding                                 | Plot and characters, I talk a lot to people about; I'm gonna be the one to creating, game related things, it's usually like thinking about mechanics; I'll share them with someone who is capable about stories; helps me to learn and get better; took this cliché from this other game, just turned it on its head, made it five times more interesting; you learn about that which could help with literacy |
| Choice of characters – gender, violence                                       | Choosing characters ahhh has never been ahhh a question of masculinity; I would either choose like either gender; I don't like violent games ... umm yeah I'm actually proud that I don't like that stuff; I don't consider myself a particularly masculine person anyway  |
| Cultural insights – accepting community, online community of practice         | Parts of the game – cultural insights, little videos you would watch ... Elders come up to a camera; they would talk about the wisdom, the Elders; I actually met a lot of friends through Melee; pretty much my best friends are all in the video game club   |

## Experiencing

I recognized a pattern in Albert's cognitive processes and demonstration of experiencing based on his video game preferences. Albert would generally play the video game Portal 2 when we started our sessions or he would use it in between playing times. His gameplay preferences were an example of how he prepared for experiencing new texts when he was playing a more detailed strategy multiplayer competitive game. This predictable method seemed to be contextual, based on subjective interest, and may have been rooted in Albert's familiarity with his own



learning knowledge processes. Albert relied on certain gameplay sequences and game type preferences—perhaps to develop his problem-solving, strategy, and decision-making skill through trial and error in an experiential learning space. Using these types of games, he concentrated his experiencing on specific problem-solving in a game. Part of Albert's process of experiencing was through learning each step completely and making certain decisions for problem solving or different strategies. Albert's game playing sequences were also methodical and logically determined.

When Jeffrey and Albert played together, they demonstrated an exchange of experiences of the known and unknown, with action and meaning-making of combined players. They provided each other with instructions and also engaged in meaningful conversations about the game design, strategies, and paratextual information during the video game sequences. Taking the time to listen and share each other's perspectives, the boys discussed their actions which involved a cultural weaving of experiences. For example, during one gameplay sequence as they collaborated to solve problems, Jeffrey commented on the design of the background colour of the game and the character outfits, while Albert interpreted in-game texts and paratextual information, such as references to Marvel comic characters within the game.

Mike focused his playing experience on character choices to provide him with new opportunities to study his opponent. He continually sought out occasions to learn and experience the new by relying on his own familiar set of skills. Mike's ability to benefit from studying his opponent demonstrated his literacy skills in active observation and critical reflection. Mike's critical reflection of other players allowed him to evaluate his own playing strategies and develop his own theories for conceptual changes. During these experiences, Mike observed opponents in order to evaluate their play strategy, including their bad habits or decisions. Mike explained, "like Melee doubles ... um it's a lot easier to have them next to you so if you notice something that the opponent team is like, maybe a bad habit ... you can share it with your partner." Mike was extending his literacy skills and own understanding of reading and observing an opponent's game strategies. In this way, he made a connection to his own prior knowledge and made decisions by predicting what the opponent would do next.

Brian used the cultural term "positive fleeting moments" to refer to some new experiences. These moments were sufficiently relevant to his own lifeworld and everyday experience but assumed new meanings for him (Cope & Kalantzis, 2009). Brian explained, "like fleeting positive interactions with people ... everyone gets excited about it that second and then like the game continues." Brian referred to interactions with people as being positive and exciting during games. His knowledge process also involved experiencing the known and familiar. One of ways Brian demonstrated his meaning-making was through collaborative activities, sharing ideas, and mentoring peers. Brian demonstrated oral literacy skills by his way of

sharing those experiences. He explained, “I feel like there are so many experiences you can share with people, narrative or just, interpersonal things like that just ... moments that are just for everyone.” This comment suggests that Brian focuses on oral discourse. His actions are interesting because they differed from the assumptions put forth by Gurian and Stevens (2010a, 2010b), who found that boys tend to rely on the brain’s right hemisphere associated with spatial skills, as compared to the girls who put more emphasis on the left hemisphere used primarily for verbal skills. Brian’s comment also suggests that he constructed his cultural knowledge from video gaming experiences by reflecting both on his own values, beliefs and perspectives, and also that of others.

## **Conceptualising**

During their gameplay sequences, Albert and Jeffrey demonstrated a social dynamic between them suggesting ways they were building mental models of each other’s play styles, strengths, and weaknesses. They constantly talked and advised one another of strategic plans. While playing the game, Albert and Jeffrey commented back and forth with each other, demonstrating how their collaborative activities seemed to blend both oral commentary and visual monitoring of onscreen images, while protecting each other’s characters. When they collaborated using this form of oral and visual support, they demonstrated their gameplay activity with socialized speech patterns in the form of oral discussions (Vygotsky, 1978). Albert and Jeffrey shared and exchanged ideas about different strategies they were using during the video game sequences. They also shared paratexts, such as developer information and references to comic book characters.

Brian also attended weekly university tournaments playing with older players to gain knowledge processes. Brian referred several times to video gaming experiences when he attended weekly Super Smash Bros. Melee tournaments: “we go to weekly tournaments ... getting better next time, you know learning about the game and ahhh how we can do better and how we can finally learn about strategies about players we’re having trouble beating.” Brian’s comments suggest that he was focused on learning strategies, perhaps reading opponents; however, he does not mention this aspect. Brian did refer to the weekly tournament experience as a way to exchange ideas with other members who assisted them in learning the game and strategies. His comments also suggest that he was an active contributor to a team and placed more importance on collaborating to learn rather than being a self-directed learner. His comments indicated how he was motivated to participate in the tournaments based on the common goals of learning and social interest shared with other players, even though they were older and in university, with less emphasis on competition. He was an active conceptualiser through his participation and membership at these

tournaments and also in the way that he engaged in collaborative discussions with other players, reflecting on what happened and negotiating future strategies.

Mike conveyed his conceptual decision-making processes when he shared his experiences about an experimental video game, Undertale, which he regularly played. Mike explained, “ahhh a very recent game ... not that difficult or anything but the game has a lot of decision-making.” Mike’s comment suggests that he would prefer games that present interactive opportunities or experiences requiring decision-making. He was also quick to point out that the game was not difficult. He often explained that choosing video games to be “smart in” was important to him. Mike’s clarification demonstrated that he was willing to give up difficulty or challenge in a game if he was able to have a cultural game playing experience involving decision-making: “Ummm ... Yeah so making decisions quickly and making good decisions. Because if you don’t make good decisions then something bad can happen.” This comment suggests Mike focused on developing his strategy in games in terms of decisiveness. Mike’s comment also suggests his impatience for an outcome because he focused his efforts on the quickness of the decision-making process. Mike’s reference to the importance of making good decisions to avoid bad things could suggest that he was risk averse in his behavior, being careful to choose decisions that supported only positive results in his cultural game playing experiences.

## **Analysing**

Part of Jeffrey’s cultural knowledge, gained from his video gaming practices, was how he qualified his comparative analysis of narrative type video games and print-based novels. According to Jeffrey, “video games are interactive, they make it a lot more fun that way. And for some games you can even change the story based on what you do ... based on choices that you make. Meanwhile with novels it’s ... it’s the same linear story every time.” Rather than read a novel, Jeffrey’s approach was to immerse himself into the game experience. Based on Jeffrey’s perspective, novels are limited in their engagement of a storyline. Jeffrey’s preference was to gain knowledge and literacy skills by demonstrating his use of alternative texts such as non-linear interactive video games. Jeffrey gained his cultural knowledge through his critical evaluation of novels, and innovative and creative video gaming interests with narrative-driven video games. His preference for narrative video games also provided him with opportunities to be creative and change a storyline based on his perception of storyline events and outcomes. He knew he could not do the same with a physical paper book. He clarified his opinion about this when he told me,

*You can interact with the characters...you can go up to them, you can ask ... they’ll spew out a line of dialogue –and then some of them tell some of the things going on*

*around you – it's like you sort of get more of what's happening you can understand a lot quicker than you would with a novel. (Jeffrey, personal communication, community centre case, August 2015)*

This comment suggests Jeffrey gained his cultural experience by using video games that included both interactive elements, the ability to change storylines, and narrative-driven plots that were of interest to him.

Mike's preference was to play Undertale to develop analysis, problem-solving, and decision-making skills. Mike's knowledge processes involved analysing logical connections, using all the video game options, to understand the cause and effect of decisions he made within gameplay sequences. Mike explained how the game was interactive, thus allowing a player to connect to characters and analyze potential decisions. His comment highlights his awareness of and focus on the end goal or outcome. He focused more on what would happen after he made decisions, than on the game's storyline or the points involved. Mike's problem-solving skills were highlighted when he used the video game as an experiential learning space to utilize the complex tools offered in the game. He explained his idea when he played Undertale, "Uhh it teaches you how to analyze things." Mike explained that his game playing experiences allowed him opportunities to discover fine, small, insignificant details:

*Yah the first time I played I kinda just played through the easy way, cause I didn't know all of these like secrets and stuff, the second time I played ... I started noticing different things ... then I purposely started making different decisions to get different outcomes. (Mike, personal communication, after-school video club case, November 2015)*

For Mike, analysing, interpreting, and testing various semiotic elements in the game enabled him to gain knowledge about the best decisions. Mike experimented with different outcomes or found secrets in the game, demonstrating critical thinking and decision-making by comparing his known experiences to new concepts he learned. His comment also suggests that he relied on paratextual information and sources from in-game text-based online forums to provide him with guidance about secrets for the game.

During my observations, Brian would interchange his gameplay characters in Super Smash Bros. Melee, often assuming the roles of female characters, suggesting he was not a stereotypical video game player by relying on negative identity constructions when playing video games. Brian explained, "Choosing characters ahhh has never been ummm ahhh a question of masculinity. You probably noticed in fact that two out of the three characters that I primarily play in Smash Brothers are female." Brian's exploration of gender demonstrated how he critically analysed

and evaluated his own meanings, actions, and perspectives. Brian's reverse gender role choices provides insight that some boys are not influenced by stereotypical, dominant definitions of masculinity in video games and that boys can express their masculinity in different ways (Mac an Ghaill, 1994). Brian's comment demonstrated his own interest behind his motivational choices, recognizing his character choices were opposite to his own gender in most cases.

## **Applying**

Part of Jeffrey's experiences engaging in video games related to applying and extending his skills beyond his gaming practices. Jeffrey extended his cultural knowledge by his interest in video game design and history. In our conversations, Jeffrey shared that he was enrolled in a game design program which enabled him to create "little iPhone games ... little apps." The "apps" related to video games about history, another interest for Jeffrey. Jeffrey had knowledge of game development evidenced by his skills and expertise in critically evaluating video game design flaws. By extending these skills, Jeffrey was transferring and extending his prior knowledge to create new concepts (Cope & Kalantzis, 2009). Jeffrey's activities resembled concrete ways to build on his metacognitive skills by relying on spatial logic and graphic computations in a video game, then further translating those into tangible skills with game design (Cope & Kalantzis, 2009). He explained, "I already know how to work with the console, the game engine, the source engine, I know how it works." Jeffrey was transferring his prior knowledge of analyzing design flaws in games and combining this knowledge with his interest in history within a new learning environment to test real world situations.

Mike shared his knowledge about the differences he had observed in the play styles of Asian versus Canadian players. Mike applied his knowledge and understanding of real world situations by outlining his perceptions of different players from diverse backgrounds. When Mike engaged in online video gaming experiences, he encountered various players of different ethnic backgrounds and used these online gaming experiences to gain a perspective about different play styles. He explained,

*And also there's like more variety with like gameplay. It's like different playing styles. Which is really interesting cause like Canadian players ummmm, back to Melee, they always have or usually they like stick to a certain style, like Canadian players tend to be more defensive and umm, Japanese players are really offensive that's what they specialize in. (Mike, personal communication, after-school video club case, November 2015)*

Mike's explanation of various play styles associated with players in Canada and Japan demonstrated how he utilized his own knowledge and experience about video game play styles and applied it to players from diverse backgrounds. Mike identified cultural terms associated with each ethnic player. For example, he associated Canadian players with being defensive compared to Japanese players who were offensive. Mike's online experiences helped to extend his knowledge by exposing him to different players' ethnicity and play styles. It is possible, however, that the online identities of those players may not have been representative of their actual ethnicity.

Brian creatively applied his knowledge processes by talking about games, sharing, and telling others. He explained, "I tell my friends about the games I just played and how great they are, tell them that they should play them ... so I could talk about it with them. I'm not a huge writer." Brian's comment places more emphasis on oral rather than written communication. He explained that his experience talking about games was more in terms of the overall game, without providing specific details. Brian at one point, made a comment about plot and characters: "I talk a lot to people about yahh I guess I talk about them," but again he did not provide specific details about particular video games or the significance of this experience. This comment does suggest he was focused on narrative literacy elements, such as plot and characters, as part of the skills he built for his cultural knowledge.

## **FUTURE TRENDS AND CONCLUSION**

There remains continued reluctance by educators to accept video games as an alternative pedagogical resource due to concerns such as time commitment and common themes of competition, violence and misogyny outlined in the issues section of this chapter. However not all video games are alike and not all students respond to video game content in the same way as evidenced by my research (Lane, 2018). Many video games are narrative-driven with embedded storylines to engage learners to develop their critical perspectives about how the texts work, such as characters' roles within the storyline (Beavis, 2012; Cope & Kalantzis, 2009).

There is an ongoing need for change in pedagogical strategies as educators support 21<sup>st</sup> century learners while supporting their professional teacher development. Head and Taylor (1997) recognized teacher development as teachers draw on personal awareness for change to support individualized professional growth. Thus, teachers could introduce narrative-based video games as a way for students to critically analyze storylines and develop perspectives. These activities may provide opportunities for students to become more engaged in a variety of texts and help to anchor their out-of-school interests. Integrating cyber culture in the form of video games can

also support professional teacher development if teachers choose to develop games aligning to curriculum objectives being taught.

## **DEFINITIONS**

Available designs (also known as metalanguages) are modes of meaning based on an individual's past and new experience of everyday life and how they apply it to their learning. These modes represent linguistic (written and oral language), visual, audio, tactile, gestural and spatial (Cope & Kalantzis, 2009; The New London Group, 1996, 2000).

Community of practice represents an online network of video gaming participants that could involve virtual gaming through massively multiplayer online games (MMOG), peer-based forums, chat-rooms, and other social media (Aarsand, 2010; Steinkuehler, 2006; Wenger, 1998).

Cultural knowledge includes multimodal forms of meanings and modes of learning (Cope & Kalantzis, 2009).

Cultural meaning systems are actions or ideas that are made up of different cultural terms that are meaningful to people (Spradley, 1979).

Multiliteracies represents a concept that addresses literacy pedagogy as a design encompassing various interconnected systems, including environment, and people, which become part of the broader picture of cultural experiences. It involves teachers and learners using available resources to design activities of reading, seeing, speaking, writing, and listening (Cope & Kalantzis, 2009). Whenever this term is used, it is in reference to multiliteracies as articulated by Cope and Kalantzis, (2000, 2009), Kalantzis, (2012), and The New London Group (1996, 2000).

## **REFERENCES**

- Aarsand, P. (2010). Young boys playing digital games. *Nordic Journal of Digital Literacy*, 5(1), 38–55.
- Ajayi, L. (2011). A multiliteracies pedagogy: Exploring semiotic possibilities of a Disney video in a third grade diverse classroom. *The Urban Review*, 43(3), 396–413. doi:10.1007/11256-010-0151-0
- Akkerman, S., Admiraal, W., & Huizenga, J. (2009). Storification in history education: A mobile game in and about medieval Amsterdam. *Computers & Education*, 52(2), 449–459. doi:10.1016/j.compedu.2008.09.014

Alexander, J. (2009). Gaming, student literacies, and the composition classroom: Some possibilities for transformation. *College Composition and Communication*, 61(1), 35–63.

Annetta, L. A. (2010). The “I’s” have it: A framework for serious educational game design. *Review of General Psychology*, 14(2), 105–112. doi:10.1037/a0018985

Beavis, C. (2012). Video games in the classroom: Developing digital literacies. *Practically Primary*, 17(1), 17–20.

Beavis, C. (2014). Games as text, games as action. *Journal of Adolescent & Adult Literacy*, 57(6), 433–439. doi:10.1002/jaal.275

Beavis, C., Muspratt, S., & Thompson, R. (2015). Computer games can get your brain working’: Student experience and perceptions of digital games in the classroom. *Learning, Media and Technology*, 40(1), 21–42. doi:10.1080/17439884.2014.904339

Connell, R. (1996). Teaching the boys: New research on masculinity, and gender strategies for schools. *Teachers College Record*, 98(2), 206–235.

Cope, B., & Kalantzis, M. (Eds.). (2000). *Multiliteracies: Literacy learning and the design of social futures*. Routledge.

Cope, B., & Kalantzis, M. (2009). “Multiliteracies”: New literacies, new learning. *Pedagogies*, 4(3), 164–195. doi:10.1080/15544800903076044

Crowther, W. & Woods, D. (1977). *Colossal Cave Adventure* [Video game]. PDP-10.

DeCoito, I., & Richardson, T. (2016). Focusing on integrated STEM concepts in a digital game. In M. Urban & D. Falvo (Eds.), *Improving K-12 STEM Education* (pp. 1–23). IGI Global.

Dupl  a, E., & Shirmohammadi, S. (2010). *Video games in the classroom building skills in literacy and numeracy*. Retrieved from [http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/ww\\_video\\_games.pdf](http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/ww_video_games.pdf)

Duret, C., & Pons, C.-M. (2016). *Contemporary research on intertextuality in video games*. IGI Global. doi:10.4018/978-1-5225-0477-1

Ferguson, C. J., & Kilburn, J. (2009). The public health risks of media violence: A meta-analytic review. *The Journal of Pediatrics*, 154(5), 759–763. doi:10.1016/j.jpeds.2008.11.033 PMID:19230901

Foster, A. N. (2009). *Gaming their way: Learning in simulation strategy video games?* (Doctoral Dissertation, Michigan State University). ProQuest Dissertations and Theses.



- Gee, J. P. (2003). *What video games have to teach us about learning and literacy* (1st ed.). Palgrave Macmillan. doi:10.1145/950566.950595
- Gee, J. P. (2007). *Good video games and good learning: Collected essays on video games, learning, and literacy*. P. Lang. doi:10.3726/978-1-4539-1162-4
- Gee, J. P. (2014). *What video games have to teach us about learning and literacy*. Palgrave Macmillan.
- Gros, B. (2007). Digital games in education: The design of games-based learning environments. *Journal of Research on Technology in Education*, 40(1), 23–38. doi:10.1080/15391523.2007.10782494
- Gumulak, S., & Webber, S. (2011). Playing video games: Learning and information literacy. *Aslib Proceedings*, 63(2/3), 241–255. doi:10.1108/00012531111135682
- Gurian, M., & Stevens, K. (2010a). *Boys and girls learn differently! A guide for teachers and parents*. Jossey-Bass.
- Gurian, M., & Stevens, K. (2010b). *The minds of boys: Saving our sons from falling behind in school and life*. Jossey-Bass.
- Gygax, G., & Arneson, D. (1974). *Dungeons and Dragons* [Video game]. Chicago: TSR. Wizards of the Coast.
- Head, K., & Taylor, P. (1997). *Readings in teacher development*. Heinemann.
- Infocom. (1979). *Zork* [Video game]. Cambridge, MA: Personal Software Infocom Activision.
- Infocom. (1983). *Suspended: A Cryogenic Nightmare* [Video game]. Cambridge, MA: Infocom.
- Interplay Productions. (1985). *The Bard's Tale* [Video game]. Electronic Arts, Ariolasoft.
- Kalantzis, M., & Cope, B. (2012). *Literacies*. Cambridge University Press. doi:10.1017/CBO9781139196581
- Kaufman, M. (1994). Men, feminism, and men's contradictory experiences of power. In H. Brod & M. Kaufman (Eds.), *Theorizing Masculinities* (pp. 142–163). Sage Publications. doi:10.4135/9781452243627.n8
- Laboratory, H. A. L. (2014). *Super Smash Bros. Melee* [Video game]. Nintendo.

- Lane, C. A. (2018). *Multiliteracies meaning-making: How four boys' video gaming experiences influence their cultural knowledge—Two ethnographic cases* (Doctoral Dissertation, Western University). Electronic Thesis and Dissertation Repository. 5303. <https://ir.lib.uwo.ca/etd/5303>
- Mac an Ghaill, M. (1994). *The making of men: Masculinities, sexualities and schooling*. Open University Press.
- Ontario Ministry of Education. (2013). *Paying attention to literacy*. Toronto: Ministry of Education. Queen's printer for Ontario. Retrieved from [http://www.edu.gov.on.ca/eng/literacynumeracy/paying\\_attention\\_literacy.pdf](http://www.edu.gov.on.ca/eng/literacynumeracy/paying_attention_literacy.pdf)
- Ontario Ministry of Education. (2015). *Capacity building for K-12. Literacy for a connected world-special edition #41*. Toronto: Ministry of Education. Queen's printer for Ontario. Retrieved from [http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS\\_LiteracyConnected.pdf](http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_LiteracyConnected.pdf)
- Sanford, K., & Madill, L. (2006). Resistance through video game play: It's a boy thing. *Canadian Journal of Education*, 29(1), 287–306, 344–345. doi:10.2307/20054157
- Sanford, K., & Madill, L. (2007). Understanding the power of new literacies through video game play and design. *Canadian Journal of Education*, 30(2), 432–455. doi:10.2307/20466645
- Sax, L. (2005). *Why gender matters*. Doubleday.
- Scott, R. M. (2014). *Using digital technologies to support word study instruction*. Retrieved from [http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW\\_UsingDigitalTech.pdf](http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW_UsingDigitalTech.pdf)
- Sherry, J. (2001). The effects of violent video games on aggression. A meta-analysis. *Human Communication Research*, 27(3), 409–431. doi:10.1093/hcr/27.3.409
- Spradley, J. P. (1979). *The Ethnographic Interview*. The University of Michigan: Holt, Rinehart and Winston.
- Squire, K. D. (2013). Video game-based learning: An emerging paradigm for instruction. *Performance Improvement Quarterly*, 26(1), 101–130. doi:10.1002/piq.21139
- Steinkuehler, C. (2006). The mangle of play. *Journal of Adolescent & Adult Literacy*, 1(3), 199–213.
- Steinkuehler, C. (2010). Video games and digital literacies. *Journal of Adolescent & Adult Literacy*, 54(1), 61–63. doi:10.1598/JAAL.54.1.7

Steinkuehler, C., Squire, K., & Barab, S. A. (2012). *Games, learning, and society: Learning and meaning in the digital age*. Cambridge University Press. doi:10.1017/CBO9781139031127

The New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 60–93. doi:10.17763/haer.66.1.17370n67v22j160u

The New London Group. (2000). A pedagogy of multiliteracies: Designing social futures. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures*. Routledge.

VanSledright, B. A. (2002). Fifth graders investigating history in the classroom: Results from a researcher-practitioner design experiment. *The Elementary School Journal*, 103(2), 131–160. doi:10.1086/499720

Vygotsky, L. S. (1978). Readings on the development of children. In *Mind and Society* (2nd ed., pp.79-91). Cambridge, MA: Harvard University Press.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge University Press. doi:10.1017/CBO9780511803932

Wolcott, H. F. (1987). On ethnographic intent. In *Interpretive Ethnography on Education: At Home and Abroad*. Hillsdale, NJ: Erlbaum.

## Chapter 8

# Social Impacts of Cyber Culture and Predictions About the Future of Open and Distance Education

**Buket Kip Kayabaş**  
*Anadolu University, Turkey*

### **ABSTRACT**

*Developments in information and communication technologies play a major role in shaping economic, political, and cultural fields. Together with its inherent features, the internet, in addition to offering opportunities such as a new cultural space, freedom, and reality, has led the change of learning habits, cultural forms, and identities. Open and distance learning starting from correspondence education to computer networks-based education is one of the most affected areas by internet technologies. Various applications have developed in the field of open and distance education over time with the reflections of cyber culture. The aim of this study is to define cyber culture with its components and examine which areas it affects in our daily lives then to investigate the future open and distance education applications shaped by cyber culture.*

DOI: 10.4018/978-1-5225-8024-9.ch008

## **INTRODUCTION**

When individuals' habits are considered, it can be seen that internet and internet technologies are used for almost everything in daily life, from shopping to sports, entertainment and education. Internet provides fast access to information from different sources and thanks to that, financial transactions can be carried out without interrupting the busy daily life, news can be reached instantly, courses from an education institution on the other side of the world can be taken, and conversation with a famous author can be done with a simple click.

In the process of accelerating globalization, computer technologies play an important role in shaping economic, political and cultural fields. Together with its inherent features, the Internet has led the change of learning habits, cultural forms and identities, in addition to offering opportunities such as a new cultural space, freedom and reality. It has made the structuring of a global culture possible by causing the emergence of new social and individual relationship forms. In addition to social life, the reflections of cyber culture can be seen in open and distance education applications where information and communication technologies are used extensively. With the impact of cyber culture, traditional open and distance education practices have evolved and led to the emergence of different applications. The purpose of this manuscript is to discuss the examples of what cyber culture is, where and how it is formed and developed; and then to present open and distance learning practices of the future that are shaped by the development of the internet and internet culture.

## **CYBER CULTURE**

The Internet as a word is a combination of "interconnected networks" meaning "connected networks" and is an international network system of interconnected computers (Öner, 2003, p. 13; Young, 2000, p. 20). In this network, information is transferred between computers. Under favour of this function of the Internet, a user can communicate with any computer on the network, can access the data on another computer within the network under user's authority, and transfer data from his own computer to the others. Therefore, it can be said that the Internet is the international electronic network formed by the connection of computers around the world to exchange information.

When compared to other scientific and social studies, the innovations, applications and research results based on computer technologies are seen to get into human life much faster. The reflections of this situation can be observed in every other field, from politics to education, individual habits to cultural characteristics. The term

*cyber* derives from its cybernetics origin (Louis, 1956, p.46) and was first used in 1958 by Louis Couffignal, who examined the communication between living organisms and machines, and is considered the father of cybernetics (Lee, 1996, p.225). Internet is cyber for communication method and is a virtual world in terms of the environment that it creates.

Cyber culture can be defined as a culture that describes the many manifestations of the use of internet for various purposes such as communication, entertainment and learning. Although it is difficult to determine the boundaries of cyber culture, they are usually thought to be cultural structures that are created by the activities of virtual communities on the internet (Bell, 2007, p.15; Lévy, 2001, p.115; Louis, 1956, p.46). Cyber culture is emphasized not only as a culture that emerges as a result of the use of computer and internet technologies, but also as a culture mediated by computers (Louis, 1956, p.46). In other words, it is a community culture created by people who have common interests and views regardless of geography.

Cyber culture should be studied as a social and cultural movement that depends on the development of internet technologies. The development of internet technologies have increased the opportunities offered by cyber culture; concordantly, all kinds of activities taking place in virtual communities have created a unique cultural structure. Initially, this culture was created by internet architects and its first users, but now it has become a product of all users' habits, usage types and approaches. This being said, cyber culture is a set of norms formed as a result of the use of internet technologies. The elements that feed cyber culture and expressed as virtual communities are listed below but not limited to only those examples are;

- Blogs
- Social networks
- Games
- Chat rooms
- Discussion forums
- Virtual Worlds

In such environments, individuals can communicate with people who have similar interests and thoughts, exchange ideas on different forums, play games just for entertainment, shop, build a life in a virtual world by creating their own village, meet on a network and get educated on a topic they are interested in. All these activities enable the formation of a new cultural structure that is independent from or intertwined with the real world.

Just as we cannot talk about the existence of a single culture in real life, there is not one single cyber culture created by virtual communities. With the help of perpetual renewed and enriched communication environments, habits of use and

approaches are also changing. In this context, it can be said that cyber culture is undergoing a rapid renewal process. Cyber culture has no geographical boundaries; and individuals can contribute to this culture in virtual communities where people with common interests and views come together from all over the world. Cyber culture is a structure mediated by information and communication technologies. Thereby, it is open to change in parallel with the development of information and communication technologies, and it has the flexibility to include different sociological and cultural characteristics.

Individuals from different social backgrounds and statuses come together in virtual communities. In terms of socialization, cyber life spaces are very different from real life in that they do not have the restrictions of real life and can eliminate status differences. Once individuals join the virtual communities they can impersonate themselves, because there is no role or identity assigned to them as in real life. They can create a new identity by determining their age, gender and physical appearance as they wish, and then join any community they like.

On the contrary of real life, in cyber life, individuals spend their leisure time in virtual communities; in short, they join communities not obligatory but voluntarily. So, they can control their own environment, determine their own living space and status. People may behave the same specific way as they would in real life, and they can sometimes behave on the very contrary. With the help of their new identity, they can easily express themselves on issues that they normally would hesitate. Individuals who set themselves free from real-life society restrictions and biases can find the opportunity to be in a freer environment. The chosen username, avatar, and personal details that are submitted or kept hidden provide clues on how people manage their identities in virtual communities. People who participate in virtual communities with their real identities without being anonymous can express themselves freely and communicate with high level of self-confidence because of having less physical contact and being less visible.

Cyber culture is not completely isolated from real life, on the contrary, relationship styles, individual and institutional structures are inspired by real life. For example, the concepts of cyberspace and virtual reality firstly mentioned in *Neuromancer* and the book inspired technology experts by predicting the future. Similarly, political and social organizations in real life carry on their communication and activities here by transferring their symbolic signs to virtual environments. The opposite of this situation is also valid, that is, cyber life affecting the real life. Identities and organizations that are formed as reactions to social events are reflected to real life.

## **Virtual Communities**

With the help of the cyber world, there has been a transition period from circle of friends to virtual communities (Wellman & Gulia, 1999, p.170). Individuals participate in virtual communities with their own specific rules, such as behavioral codes, communication style and language, and identity creation in these new communication environments. Virtual communities have brought some innovations and changes that are different from real life. Unlike real life in these communities, community members change constantly, rules and sanctions are more flexible, and individuals are given the opportunity to create a new identity. In time, as the members of the community become permanent, the rules within the group can be determined more clearly and with precise boundaries.

Virtual communities are based on the interaction between people. All communication activities turn individuals into a part of community and their presence within a group varies based on their interaction. People create their own social environments around the identities they created and interact with other people. Another point that distinguishes virtual communities from real life is members of the communities can be anyone from all around the world. With the opportunities to express themselves freely, identities they have created and in any period of time they wish, individuals get a chance to go through different experiences on the virtual life platforms that are voluntarily participated.

The cities with an airport in a country and the flights between these cities are connected to an airline transportation network; the computers and the connections between them are connected to the internet network; the cells in our body are connected to the molecular network; and people are connected to each other with a social bound of a family, business partnership, and friendships. In short, networks are structures that exist in every stage of life. Another product of the process of structuring their own communication environment offered by social media to individuals is virtual communities on social networks. Individuals in virtual communities have the opportunity to build information by creating content, commenting on an existing one, tagging and sharing in addition to accessing and following information. Thus, in communication environments, the individual has shifted from passive position and has moved to a level of awareness, who designs, comments, contributes and is responsible for their own contributions. Today, visiting virtual communities has become a part of many people's daily activities. Virtual communities are environments where individuals can have an opportunity to express themselves by creating a profile, reach other individuals through their profiles, join other networks through their friends lists, communicate and share. In short, the virtual community is the structure in which individuals are connected to each other with various relationships.



Virtual communities can be categorized as e-mail groups, blogs, forums, internet dictionaries, instant messaging platforms and social networking sites. Each environment has its own unique features but what they have in common is that they all provide equal opportunities to individuals with common interests and goals to come together and express themselves. Some people prefer to join new networks just to build a network and share, meanwhile some prefer to join a circle that consists people that they already know in real life. Social networking sites make it possible to create and participate in communities that will meet both needs.

In the early years of the Internet, there were some virtual communities and activities run by these communities. However, these activities were not widely used because of being very limited and not accessible from anywhere at all times. As a result of the increase of the capacity, ease of use and reasonable prices of mobile devices, virtual communities have become widespread. By the virtue of their mobile devices, individuals can access virtual communities without interrupting their daily activities, even when traveling or shopping; can post a comment about their order even before they leave the restaurant and instantly access the comments of others who watched a movie before watching it. The increase in virtual community activities and the proliferation of cyber culture are related to these mobile devices. The possibilities offered by mobile technologies made cyber life and real life intertwine and feed each other.

With the historical development of virtual communities, unique social norms and a different communication language of daily life has been formed. Individuals use this special language to express themselves in virtual communities, to contribute to an existing content and to communicate with other individuals. This unique language of virtual communities contains verbal and non-verbal communication elements. For example, a person can poke or warn a friend with whom he has not been in touch for a long time. Thus, he sends a non-verbal message, and then communication between these two people begins. Similarly, individuals can express their admiration by liking the posts of people in the community; this can be a follower to watch a content or contribute to a post on someone's wall where all of the posts can be found. Non-verbal communication elements, such as liking or poking, used in virtual communities help people who are shy or having difficulties in communicating in real life to express themselves easily in these environments. With the act of liking a published news or a photo simply by pressing a single button, a shy person can find an opportunity to explain his opinion on a subject without being verbal.

Once individuals join a virtual community, they are recommended to connect with other friends who have previously joined the network. With its feature of suggesting friends, virtual communities recommend other people on the network based on the person's interests and profile information. By doing so, it supports both the expansion of the network and more interaction of the person. Likewise,

other communities in which people in the community participate are recommended and connection with other networks is created. Cyber culture makes it possible to share common tastes, beliefs and opinions more easily. Individuals can easily reach individuals and communities who share similar to their interests.

Another cyber life habit is to watch television programs, concerts, panels and conferences interactively. While the news and discussion programs on TV or a conference presentation are ongoing, other people can also contribute to them. Participation is asked by sharing some keywords. The subject of the program, speaker or the environment can help with the personal opinions, and the participants become a part of them rather than just an audience. The program even features live posts from time to time. In this context, it would not be wrong to say that virtual communities direct real life.

## **Social Effects of Virtual Communities**

Virtual communities bring individuals with common views, beliefs and tastes together, as well as allowing them to organize for the same purpose. People prefer to announce an event, an organization call or an invitation by sharing them in virtual communities. To illustrate that, imagine a couple organizing a wedding ceremony in real life, they have to reach their guests one by one and hand the invitation to them. However, with a culture spreading in virtual communities, the wedding invitation is announced here, even the first congratulations are accepted here, photos and the memories of that day are shared and the participation status of the guests can be seen here.

In the internet environment where there is no censorship anymore, individuals can easily react to public events. People who do not have a chance to get together can find an opportunity to share their views in virtual communities. Individuals who cannot express themselves in real life come together on social networking sites and get organized; they can even carry these organizations in real life. These organizations that are carried into real life can sometimes direct public events and sometimes even relegate political administrations. Likewise, individuals prefer social communities to express their reactions to a public event. For instance, people who want to protest child abuse have managed to draw attention to a public problem by setting their favorite cartoon character as their profile photo on the social networking site.

## **Having Fun in Cyber World**

The Internet has changed many of our practices, starting from how we think to how we learn and even how we have fun. Activities related to daily life such as chatting, games, movies, food, and sharing photos have shifted to a different level in cyber

life. Today, thanks to mobile technologies, the habits of individuals to listen music have also changed. People now prefer to listen to music while traveling, working, walking or resting, and this means they want to be able to carry music with themselves wherever they go. Young people who are born in and raised by cyber culture are representatives of mobile entertainment. Easy accessibility of mobile technologies has led today's entertainment concept to be mobilized.

In cyber environments, chats are different than real life. Individuals express themselves synchronously in a verbal or usually in a written way. In cyber space, chatting is a form of communication that a person can initiate at any time. Various messaging softwares can be used for chatting, as well as some platforms created by some other sites. When the virtual chat environments that exist in cyber culture considered, individuals' perceptions of social presence in these environments should also be taken into account. The ability to project one's personal identity and the degree of this person's perception as real in a communication environment is defined as social presence (Garrison, 1997, p.6; Gunawardena & Zittle, 1997; p.9; Leh, 2001, p.110; Tu, 2000, p.1662). The degree of this perception is determined by the way people interact. The level of social presence perception is affected by information transfer through gestures, eye contact, posture, and non-verbal communication. Since they do not contain non-verbal communication elements, it is thought that computer mediated communication environments contain less perception of social presence compared to face-to-face environments. However, icons and non-verbal activities are used to compensate for the deficiencies of non-verbal communication in the online communication process. During the conversations in chat environments, various symbols called as talking faces:-):-(:-o are used. These characters allow some emotions and thoughts that are expressed using body language to be transferred to the electronic environment. In addition to these, emotions can be expressed by using pictures, characters or icons. Also, non-speech activities such as "hmm" can impose a reflection on a message in a chat. The use of such expressions increases the perception of social presence and brings closer to the perception of being in a traditional face-to-face chat environment.

Computer games that people play to spend their time for entertainment have an important place in cyber life. With computer games, real life activities have been moved to virtual environments. Today's fictional and three-dimensional computer-generated virtual structure in computer games create a similar feeling as if being in real life. Individuals prefer games for communication and socializing purposes as well. In here people have independent identities from real life. Identity structures in virtual environments have been mentioned before. Just like in other communities, individuals in game communities choose different identities and impersonate themselves however they want. The points they earn in games provide them power

and prestige, and they continue their life by networking. Therefore, they are satisfied after reaching the life style they would like to have in real life.

As people see their dreams come true in virtual games created with a real life reference, they spare more time to these games, which they initially consider as leisure activities. After a point, these games can become a priority in life and turn into an addiction. The virtual world removes social distance and makes two-way communication possible between individuals. In time, the need for communication and socialization in real life are met by virtual environments, this causes games to be preferred to real life. On the other hand, the concept of gamification (Deterding et al. 2011, p.11; McGonigal 2011, p.21; Simões et al. 2013, pp. 345), which means the application of game-design elements and game principles in various ways on platforms in non-game contexts, has been used in every other field including banking and food market. Gamification applications are used as a marketing tool to increase users' loyalty to the environment through competition and entertainment.

## **New Media**

Today, alongside news agencies, newspapers, magazines and reporters, social media has gained a great importance to create and distribute news content. Because of its opportunities social media help individuals access and contribute to multiple contents, such as news, videos and photos, instantly; meanwhile, professional news agencies create their own social media platforms to support them. The Internet has given people the opportunity to be heard freely. New media tools has gained a huge importance for the daily life, and this led to great changes in the processes of news creation, processing and distribution. It is of great importance that the process from the creation of the news to its publication is managed accurately, completely and quickly. At this point, internet technologies offer various opportunities particularly to spread the news rapidly and contribute to the formation of a new cyber culture in the field of journalism. In news sites where multimedia meaning text, audio and video are used together, individuals can access breaking news in an instant, follow the agenda and even interact with these sites to comment on the news. The extent to which these news sites are open to interaction and how much they include multimedia opportunities are the distinctive factors in terms of the visibility of the site.

Another point where journalism in new media environments differs from traditional journalism is the feature of hypertextuality. These structures, which are called hypertext or link, provide access from one content to another. In other words, photos, audio files, videos that complement news are made accessible by linking to the text. Thus, the news are enriched and made more accessible for readers by providing an instant access to the additional materials.

The need for the news to be produced and published rapidly resulted as the newsmakers to gain some additional qualifications. Usually, a news reporter who works for traditional media collects his resources, delivers them to the agency, the information goes through certain processes for the broadcast phase and then put into its last form to be broadcasted for its audience. But, today, the information and communication tools provide such opportunities that any event with a certain quality of being news can be delivered to the society as soon as it happens. Social media contributes to the formation of a liberal and participatory cyber culture with its opportunities. Today particularly Twitter is perceived as a news channel and is frequently used to access up-to-date information and developments.

Nowadays, the opportunities of the information and communication tools help any event with news quality to be delivered to the society as soon as it happens. Social media contributes to the formation of a liberal and participatory cyber culture with the opportunities it provides. Today, individuals can report an event they witnessed on social networks without the need for any institution, ensure its distribution and dissemination by reaching large masses thanks to its followers. In other words, every individual can be a news source in cyber culture. Especially Twitter is perceived as a news channel and is frequently used to access up-to-date information and developments.

The fact that readers share their feelings and opinions instantly via e-mail, message, comments or surveys on the internet indicates their contribution to the creation of the content. Thanks to internet's feature of interactivity, individuals who are only readers in traditional publications have not only become readers, but also have become active participants who can contribute to the existing content, make comments, express their opinions and suggestions. The change of their role has changed the habits of the readers dramatically.

On the other hand, columnists, artists and technologists who want to take advantage of the power of social media use it to create their own follower lists. For instance, some journalists and columnists share their daily contents both on traditional and social media. People who follow these authors can also access these posts, make comments and even contribute to the content of these posts. Thus, the author can deliver his post to many more people, and the followers are involved in the production and interpretation of the content by accessing it quickly. Some authors prefer to reach their target audience by using social media tools from their home office without being affiliated with any agency. Also, the artists carry out public relations activities such as promoting their plays on social media platforms before their shows, and after the show they meet the audience to make comments about these plays.

Another topic that should be addressed in the field of journalism in social media environments is digital publishing applications. With the extensive use of mobile

devices, social media applications have become easily and quickly accessible. Newspapers and magazines prepared in traditional media environments have been migrated to digital media, supported with multimedia content and the users can now interact with the content. These have also led to revolutionary changes of people's reading habits of the newspapers and magazines.

Blogs or internet diaries as another social media environments in which people can express themselves have added a different dimension to journalism. Blogs are virtual platforms where individuals can write comments about a movie, share news based on their interests or exchange ideas with people they do not know at all. In addition to providing individuals an opportunity to share their daily life experiences, blog sites offer an environment where they can freely post their feelings and thoughts on any subject without being exposed. Blogs are increasing day by day. They are used especially as a source of news and information. Some professional journalists carry out their reporting activities individually on blog sites. As a matter of fact, bloggers who organize, share photos and news with each other have managed to share fast and contentful posts with their readers. This brings up some questions. Will there be no need for journalists who work for agencies in time? Of course, the survival of news agencies is extremely important, but it is also a fact that social media applications have brought a different culture to the journalism industry.

Processes such as the development, release and follow-ups of applications used in social media environments have caused the emergence of new business models. Even social media specialists departments for undergraduate and graduate levels are opened in universities, and educational works are ongoing to train professionals for business world in this field. All these developments show that social media contributes greatly to cyber culture by changing the habits and values in individual and institutional contexts.

## **THE FUTURE OF OPEN AND DISTANCE EDUCATION**

In the previous sections, the activities taking place in the virtual communities and new media environments are examined and the reflections of the cyber culture which is an outcome of these have a great impact on education. It is predicted that the technologies of the future, from artificial intelligence to artificial super intelligence, to transhumanist applications (Uğur & Kurubacak, 2019, p. 1) will closely affect every aspect of life, especially open and distance learning. When compared with the last decade, there has been a great increase in the amount of information needed and used by a person in a certain period of time. Today, the features acquired in the past to sustain daily life are insufficient. It is a must to process data coming from different channels simultaneously. On the other hand, in parallel with the rapid

circulation of technology, the rapid consumption of information also creates the need for institutions and individuals to update themselves constantly. For these purposes, electronic learning (e-learning) has taken its place in everyone's life.

E-learning is a learning process in which learning environments and activities are structured by internet technologies, providing individuals the opportunity to access each other and collaborate with other learners and lecturers regardless of their location (Harasim, 1990, p.43; Khan, 1997, p.5). With its multimedia options, e-Learning environments offer various opportunities to meet different learning needs. Thus, people with different learning styles can choose their learning environment according to their needs.

Asynchronous (time-independent) communication environments offer people an opportunity to participate in the learning environment whenever they are available (Harasim, 1990, p. 41). E-learning applications are place independent and this removes all the limitations of traditional education. As a consequence, the users can work on their personal development while keeping up with the activities of their adult life. Thus, they can participate in learning activities that they need without taking a break from their regular daily responsibilities. E-learning activities offer individuals the flexibility to be in control while thinking and commenting on their learning material. This has helped learners to have the ability to produce quality ideas by making more qualified decisions in online environments (Rice & Love, 1987, p. 85). Additionally, the written environment has brought the necessity of being much more careful while delivering their messages. This made learners act more responsibly and share a better quality of content.

The above mentioned features can also be found in traditional distance education, the difference between this and e-learning is that the feature of e-learning which indicates the computer mediated learning process allows intensive interaction and socialization among learners, just like in face-to-face education. Computers provide and offer an option to control processes such as information retrieval, processing and management. Online interactions can be reviewed, archived, and edited. This gives individuals much more control than they have in a traditional face-to-face learning environment.

The roles of the lecturer and the learner in e-Learning processes have also changed in time. The instructor who used to convey information in online environments become an assistant to guide for information, and the learner has become active rather than being passive and wait for an information to be delivered to himself (Hannafin & Land, 1997, p. 167; Harasim, 1990, p. 43; Simonson et al., 2000, p.3). The active learning approach requires individuals to take great responsibility for their own learning, to be determinant of their individual learning strategies and to have control over their learning processes by leaving the passive learner position (Hannafin & Land, 1997, p.169; Papert, 1993, p.14). E-Learning applications

offer new experiences for learners and instructors, therefore the individuals need to be prepared for this new learning environment. The feature of e-Learning helps learners hide their identities and all learners can have the opportunity to learn equally and in a democratic environment regardless of their religion, language, race, age, gender, and social status. The interaction opportunities and levels between learners, instructors and experts from anywhere around the world are of great importance in e-Learning processes (Berge, 1997, p. 4). Because of the opportunities offered by internet technologies, individuals can take courses from field experts together with other learners in an educational institution that is physically difficult to reach and can come together in virtual classrooms and laboratories. This special experience offered to learners by cyber life gives individuals very different perspectives.

To summarize, time and space limitations have disappeared with the emergence of e-learning. Thus, the lecturer can establish a mutual, synchronous or asynchronous communication with the learners both individually and collectively. The internet technologies in learning processes have made it possible to design learning environments by considering the individual needs and differences. Therefore, they have made it possible to reach information even from places that are not accessible. E-learning processes help individuals find a platform to express themselves openly and comfortably, and this has created a very important cyber culture.

## **Lifelong Learning Practices Will Be Increasingly Important**

As a consequence of the rapid developments in the field of science and technology, individuals need to renew and update themselves constantly. Information in some fields becomes already outdated after a very short period of time. Today a successful society is a community that can produce, provide, use and convey information to other people. This can be achieved within the scope of lifelong learning with the help of information and communication technologies. Lifelong learning transforms the learning process of people into a process that they can continue not only until some certain age in schools, but at every stage of their life. With lifelong learning, individuals gain opportunities to seize the opportunities missed in the past, develop and renew existing knowledge and skills.

Internet-based certificate programs within the scope of lifelong learning activities give individuals the opportunity to develop themselves and their career (Kip Kayabaş, 2020b, p.85). Nowadays, people prefer short-term internet-based certificate training, instead of meeting their educational needs by taking long-term undergraduate and graduate education. Therefore, teaching activities become a part of their adult life and continue throughout life. Institutions also support this formation by guiding their employees to internet-based certificate programs of universities, and ensuring they get in-service training from a reliable source without losing their workforce.



With Internet-based certificate training, individuals can have such advantages;

- flexible, that is, they can plan according to their needs by choosing among from many programs and course contents they are offered,
- efficient, that is, they can use their time wisely, without interrupting their work life, focus on multi options based on their needs within the distance learning environment they are offered,
- economic, that is, they can turn to a specific field of education to meet their educational needs and gain experience.

One of the reflections of cyber culture in the field of education is the organization of open course materials. OpenCourseWare project, which was initiated by the Massachusetts Institute of Technology (MIT) in the early 2000s, aims to open the materials of the courses given in the higher education institutions on the internet (Atkins, Brown, & Hammond, 2007, p.4). This initiative, which has been adopted by many universities over time, has become international under the name of OpenCourseWare. On the internet portals, the lecturers share their teaching materials they have prepared in accordance with the determined structure. This means a learner anywhere all around the world can get an access to the course resources of instructors at the other universities. Similarly, instructors have the opportunity to access and use the resources of their colleagues who are conducting the same course. In addition to learners and instructors, these resources are also accessible to anyone interested in the subject. In Turkey, first attempts to open up course materials has been initiated by and under the leadership of Turkish Academy of Sciences with the collaboration of National Open Courseware Consortium in 2007 (Kip Kayabaş, 2020a, p. 47). As a consequence, it is ensured that anyone interested in the subject of the course resources are constantly updated, have an access and benefit from them under certain protection licenses without any fee.

In 2002, following the movement of open course materials, the Open Educational Resources initiative (UNESCO, 2002, p.24), which is the use and adaptation of educational resources for free, was launched with the help of information and communication technologies. Even though the term *open educational resources* came to the agenda later on, open course materials including software, course materials and licensing conditions were still included. By the force of these two initiatives that can be taken as a great revolution in education, individuals can access educational materials for free and without any conditions from anywhere around the world.

The idea to make higher education courses accessible to anyone interested by giving open access (Downes, 2008, p.7; Siemens, 2008, p.6) created different online course applications. One of these recent applications is Massive Open Online Courses (MOOCs) and it offers open access to university-level courses and includes

different applications in the traditional higher education (Yuan & Powell, 2013, p.5). MOOCs are free online courses designed for large groups of learners, accessible to anyone anywhere with network access without any admission requirements (EADTU, 2015, p.11). The term MOOC which is claimed to be a continuation of open access and open educational resources movement was first used in 2008 by Dave Cormier in reference to the course “Connectivism and Connective Knowledge” that was facilitated by George Siemens and Stephen Downes in partnership with the University of Manitoba, Canada (Yuan et al., 2008, p.5). MOOCs are initially built on the basis of the connectionist philosophy of interacting with other learners by accessing personal learning environments on a learning network. Later they are transformed into course structures in which the content is divided into sections and conveyed directly by the instructor, where he has more control over the content (Hollands & Tirthali, 2014, p.25).

Even though MOOCs are said to be free, different business models have been developed by the providers over time. In particular, some programs as a training series on specific subjects are designed and certificates are offered to those who attend for a fee and complete all the courses. These have become very popular. On the other hand, practices have been developed in the form of MOOC providers to offer paid courses with the agreements that are made with the faculty members of popular universities and to issue university-approved certificates with institutional agreements. In this business model, individuals have the opportunity to get education in any field they want without any pre-conditions; university faculty members can share their knowledge and experience with large masses; universities can increase their recognition by certifying these training and MOOC providers also generate income with this business model. It is expected that this and many other new business models will be implemented and will benefit all other stakeholders in this system.

The technologies, pedagogical approaches and methods used in mass courses are described as the evolution of open education resources and they are not invented yesterday; the experiences gained in the field of open and distance learning and the opportunities offered by information and communication technologies have been put together on an easily accessible and user-friendly form (Kip Kayabaş, 2020a, p.66). With their advantages such as easy access to the courses designed by faculty members working at world-renowned universities any time anywhere without any precondition, MOOCs create a cyber education culture and will be the education model of the future.

## **REFERENCES**

- Adamopoulos, P. (2013). What makes a great MOOC? An interdisciplinary analysis of student retention in online courses. *Proc. of 34th Intern'l Conf. on Info. Systems*. Retrieved from <http://pages.stern.nyu.edu/~padamopo/What%20makes%20a%20great%20MOOC.pdf>
- Atkins, D. E., Brown, J. S., & Hammond, A. L. (2007). *A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and New Opportunities*. Hewlett Foundation.
- Bell, D. (2007). *Cyberculture Theorists: Manuel Castells and Donna Haraway*. Routledge.
- Berge, Z. L. (1997). Computer conferencing & the online classroom. *International Journal of Educational Telecommunications*, 3(1).
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: defining gamification. *Proc 15th MindTrek conference*, 9–15. 10.1145/2181037.2181040
- Downes, S. (2008). Article. In K. Habitzel, T. D. Märk, & S. Prock (Eds.), *An Introduction to Connective Knowledge* (pp. 7–102). Conference Series.
- EADTU. (2015). *Institutional MOOC strategies in Europe*. Retrieved at Dec 2020 from [http://eadtu.eu/documents/Publications/OEenM/Institutional\\_MOOC\\_strategies\\_in\\_Europe.pdf](http://eadtu.eu/documents/Publications/OEenM/Institutional_MOOC_strategies_in_Europe.pdf)
- Garrison, D. R. (1997). Computer Conferencing & Distance Education: Cognitive & Social Presence Issues. In *The New Learning Environment: A Global Perspective. Proceedings of the International Conference on Data Engineering World Conference*. Pennsylvania State University.
- Gunawardena, C., & Zittle, F. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *American Journal of Distance Education*, 11(3), 8–26. doi:10.1080/08923649709526970
- Hannafin, M. J., & Land, S. M. (1997). The foundations & assumptions of technology-enhanced student-centered learning environments. *Instructional Science*, 25(3), 167–202. doi:10.1023/A:1002997414652
- Harasim, L. M. (1990). *Online Education: Perspectives on a new environment*. Praeger.

Hollands, F. M., & Tirthali, D. (2014). *MOOCs: expectations and reality*. Full report. Center for Benefit-Cost Studies of Education, Teachers College, Columbia University. Retrieved at Dec 2020 from [http://cbcse.org/wordpress/wpcontent/uploads/2014/05/MOOCs\\_Expectations\\_and\\_Reality.pdf](http://cbcse.org/wordpress/wpcontent/uploads/2014/05/MOOCs_Expectations_and_Reality.pdf)

Kip Kayabaş, B. (2020a). *Eğitimde Açıklık ve Kitlese Açık Dersler*. Gece Kitaplığı Yayınevi.

Kip Kayabaş, B. (2020b, Nov.). *Cooperative Education in Turkey Through Open and Distance Education*. *The Turkish Online Journal of Educational Technology*.

Lee, J. A. N. (1996). *International Biographical Dictionary of Computer Pioneers*. Routledge.

Leh, A. S. (2001). Computer-Mediated Communication & Social Presence in a Distance Learning Environment. *International Journal of Educational Telecommunications*, 7(2), 109–128.

Lévy, P. (2001). *Cyberculture* (R. Bonnono, Trans.). University of Minneapolis Press.

Louis, C. (1956). Essai d'une définition générale de la cybernétique. *The First International Congress on Cybernetics*, 46-54.

McGonigal, J. (2011). *Reality is broken: Why games make us better and how they can change the world*. Penguin Press.

Öner, B. D. (2003). *Bilgisayar Ağları*. Papatya Yayıncılık.

Papert, S. (1993). *The children's machine: Rethinking school in the age of the computer*. Basic Books.

Rice, R. E., & Love, G. (1987). Electronic emotion: Socio-emotional content in a computer-mediated communication network. *Communication Research*, 14(1), 85–105. doi:10.1177/009365087014001005

Siemens, G. (2008). *Learning and knowing in networks: Changing roles for educators and designers*. Paper 105: University of Georgia IT Forum. Retrieved at Dec 2020 from <http://itforum.coe.uga.edu/Paper105/Siemens.pdf>

Simões, J., Redondo, R. D., & Vilas, A. F. (2013). A social gamification framework for a K-6 learning platform. *Computers in Human Behavior*, 29(2), 345–353. doi:10.1016/j.chb.2012.06.007

Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2000). *Teaching & learning at a distance: Foundations of distance education*. Merrill.

Tu, C. H. (2000). Strategies to Increase Interaction in Online Social Learning Environments. In *SITE 2000. Proceedings from the Society for Information Technology & Teacher Education International conference*. Norfolk, VA: AACE.

Uğur, S., & Kurubacak, G. (2019). Artificial Intelligence to Super Artificial Intelligence, Cyber Culture to Transhumanist Culture: Change of the Age and Human. In I. S. Sisman-Ugur & G. Kurubacak (Eds.), *Handbook of Research on Learning in the Age of Transhumanism* (pp. 1–16). IGI Global. doi:10.4018/978-1-5225-8431-5.ch001

UNESCO. (2002). *Forum On the Impact of Open Courseware for Higher Education in Developing Countries*. Retrieved at Dec 2020 from <http://conference.wcet.info/2007/presentations/converted/Open%20Educational%20Resources.pdf>

Wellman, B., & Gulia, M. (1999). Virtual Communities as Communities. In M. A. Smith & P. Kollock (Eds.), *Communities in Cyberspace*. Routledge.

Young, M. L. (2000). *İnternet Temel Kullanım Kılavuzu: Herkes İçin*. Alfa Yayıncılık.

Yuan, L., MacNeill, S., & Kraan, W. G. (2008). Open Educational Resources-opportunities and challenges for higher education. *Educational Cybernetics: Reports*. <https://www.oecd.org/edu/ceri/37351085.pdf>

Yuan, L., & Powell, S. (2013). MOOCs and open education: Implications for higher education. Bolton, UK: JISC, Centre for Educational Technology & Interoperability Standards.

## **KEY TERMS AND DEFINITIONS**

**Cyber Culture:** The culture that shapes with using of the internet for various purposes such as communication, entertainment, and learning.

**E-Certificate Programs:** Short-term education programs for personal and professional development of individuals designed on the basis of lifelong learning philosophy.

**E-Learning:** Learning process in which learning environments and activities are structured using internet technologies that provide individuals with the opportunity to access each other and collaborate with other learners and lecturers regardless of their location.

**Lifelong Learning:** A learning process that continues throughout one's whole life in order to reach the rapidly developing, changing and renewed information that will help the individual to succeed in social and professional life, cope with the problems, provide solutions when needed, and develop his competencies.

**Massive Open Online Courses:** Courses that are generally free, designed for large groups of students, accessible by anyone with an internet connection and without any entry requirements.

**Open and Distance Education:** Learning process in which learners are distant from each other and learning resources in terms of time and/or space, and their interactions with each other and learning resources are based on remote communication systems.

## Chapter 9

# The Dialectics of Cyber– Aesthetics and Graphic Design in the 21st Century

Selma Kozak

 <https://orcid.org/0000-0003-0469-5922>  
Dokuz Eylül University, Turkey

### ABSTRACT

*We live in a digital culture and cyber era. Cyberculture is an extensive concept including information and communication technologies, media and new media, theories, ideas, literature, art, design, and cultural studies. On the other hand, Lev Manovich updates new media and it reflects the characteristics of new avant-garde because of new digital hardware and software technology. New media has a new aesthetic potential, so does cyberculture. The rise of cyber culture has made it necessary to underline the relationship between graphic design and cyber culture and made it necessary to show key design elements of cyber-aesthetics. In this context, by using descriptive method, the chapter focuses on some components of aesthetics and cyber-aesthetics in the frame of relationship between graphic design and cyber-culture. Now, there is a global pandemic (COVID-19). Some graphic design examples came out during this global pandemic. These examples will be evaluated in terms of cyber-graphic design, cyber-aesthetics, and cyber-culture.*

DOI: 10.4018/978-1-5225-8024-9.ch009

## 1. INTRODUCTION

Cyberculture is a major concept of 21st Century. Nowadays, the concepts itself reflects conditions of post-modern society. Cyberculture is a matter of global and mass. Technological advancements, communication technologies and cybernetics have changed the society. Cybernetics is a modern and extensive science that has an effect on most fields. Cultural variances from local to global to cyberculture are definitely related to the growth of the internet and especially the World Wide Web (2000). Cyberculture is a concept that not applied solely cyberspace issues, new media, visual language of time but also changed society characteristic, and human behaviors. The attitude of Manuel Castells to cyberculture is global. He draws a frame for sociological, anthropological and mass. Castells uses real virtuality as a synonym of cyber-culture. Virtual reality gives a new meaning of the reality itself in post-modern world.

In Cyber Era, internet, new media devices enable us hypertext transmissions. We always connect from somewhere to other. In 21st Century, nothing is a mystery anymore. Anything can be anywhere. Nowadays, art and design also integrate itself into cyber-culture. Lev Manovich updates new media. However, he bases 1920s vision to new media and links new media with Bauhaus and the visions of some pioneers of design history.

On the other hand, although graphic design history dates back to old times, it stays always modern and current by its nature. Graphic design uses specific hardware and software. It designs with them. Nowadays, the rapid advancements of software technology enable to make extraordinary graphic design applications. Graphic design reflections and cyber-design effects can be seen almost everywhere, from cities to digital interfaces, from print technologies to websites. Philip B. Meggs calls graphic design '*ubiquitous*'.

After William Gibson created cyber-punk literature genre in the novel of '*Neuromancer*' (1984), it changed the visual language and aesthetics approaches of 21st Century. He introduced the concept of cyber-punk and cyberspace. Thus, it is now necessary to mention cyber-punk and graphic design relation and cyber-aesthetic.

In this context, concentrating on relationship between cyberculture and graphic design, It will be discussed using descriptive method some components of aesthetics and cyber-aesthetics in graphic design with some specific examples. Currently, there is a global pandemic (Covid-19) all around the world and we are witnesses of this pandemic. Artist and designers are the storytellers here. Some graphic design examples came out during the global pandemic. These examples will be evaluated in terms of cyber-graphic design, cyber-aesthetic, cyber-culture.



## **2. GRAPHIC DESIGN AND AESTHETIC ISSUES**

Graphic design has been always revolutionary field. There is no any art and design as communal as like graphic design and typography. Both are deeply embedded in the fabric of society in every era. The field has been always reflected and still reflects the time spirit. Technological advancements had considerably impacted the society and graphic design since 1900s. However, after 1920s, the field has been profoundly changed with digital technology. Interpreting and evaluating the myriad social and aesthetics implications of graphic design throughout its history helps us to understand today's aesthetics aspects and the Bauhaus is the first place to look at this aesthetics revolution.

Bauhaus has become a significant symbol for rethinking and reimagine around the forms, material and social ambitions to reflect the harmony of all the arts since its foundation. According to Walter Gropius, this vision is a union of art and design in the Manifesto of the Bauhaus (1919). The pioneers and fascinating leaders of Expressionism, Futurism, Dada, Constructivism, De Stijl and also many of the avant-garde's most influential figures participated in Bauhaus as teachers, and provoked the press with their manifestos and lectures.

As myth, Bauhaus signifies a hunger for function and a will to liberate the world with a universal design language. Therefore, it has become the mythic origin of modernism, a site alternately revered and attacked by generations who have grown up in its shadow. Bauhaus was not a monolithic institution; like any school, it was a changing and often divisive coalition of students, faculty and administrators (Lupton & Miller, 2019: 7-8).

However, it is not enough to say The Bauhaus is a kind of reflection of mythic origin of modernism and combining the material world and all the arts. Beyond all, it is possible to say that Bauhaus represents a radical changing, a sustainable design effect. As graphic designer and writer J. Abbott Miller (2019: 10) underlined; *"once upon a time there was a school at far from the Black Forest... The Bauhaus has become the opening chapter to the narrative of twentieth-century design. It is the most widely known, discussed, published, imitated, collected, exhibited, and cathected aspect of modern graphic design, industrial, and architectural design. Its status as a founding moment of design has been strengthened by the adoption of its methods and ideal in schools throughout the world. The Bauhaus has taken a mythic proportions as an originary moment of the avant-garde, a moment when a fundamental grammar of visual was underneath from the debris of historicism and traditional forms"*.

As a new alliance area, 'Art and technology' have become the new post-Expressionist, functionalist identity and a new unity in the school. According to László Moholy-Nagy *"technology does not need art, but art does need technology"*.

They used the technology as a tool to turn the Bauhaus back to the machine aesthetic and to provide high-quality designs for the modern world (Eskilson, 2007: 234).

Bauhaus has been changed the face of design and graphic design. Today, exactly a century later, Bauhaus and its design theory as well as aesthetics principles still continue to reverberate and shape through popular culture and cyber-culture. Nowadays, we are still using its basics. Its aesthetics perspective can be seen almost in every sector of design realm and can be interpreted a variety of context.

Bauhaus is not a school that effects on art, design, industry and architecture throughout the world from USA to Switzerland, but also an innovator place where defined, progressed and contained itself many notions, attitudes or formations. The notion of 'New', for instance, is a concept that emphasize within the school. *New Typography, 1923 (Die Neue Typographie), Circle of New Advertising Designer, 1928 (Ring Neue Werbegestalter), New Buildings 1926, New Vision, New Bauhaus, 1937* have developed in the Bauhaus within the vision of the pioneers of design history.

According to Atay, (2019:93): *new is an 'élan vital' sign - until becomes old; it connotes awakening, beginning, action, change, energy and alternative existence. New is revolutionary and futurist by its nature. New has a regenerative power. Thus, notion of new exist also in the postmodern mentality- despite anachronist postmodernist conjuncture- as in modern thinking.* Hence, Bauhaus was born as a revolutionary and futuristic school. It is an awakening, new beginning and new existence. Especially, when it comes to modern thinking, modern graphic design and typography, master of graphic design have initiated and laid the foundations them.

For example, Jan Tschichold's New Typography underlied the modern typography, san serif type and contributed to develop modern print technologies. Bauhaus typographers believed that sans serif type was indispensable for three reasons: first, it was the only type capable of expressing spirit of the machine age; second, sans serif lacked any nationalist associations; and, third, its simple clarity and impersonal character were the best match for photography- hence typophoto. Perhaps, the most significant contribution that Tschichold made to New Typography was the creation of publications outlining the theory and practice of a wide range of avant-garde designers (Eskilson, 2007: 242-245).

Besides, László Moholy-Nagy has considered the typography as a tool among people to communicate. In his famous article titled 'The New Typography' (1923), he underlined that *"typography is a tool of communication. It must be communication in its most intense form. The emphasis must be on absolute clarity since this distinguishes the character of our own writing from that of ancient pictographic forms. We use all typefaces, type sizes, geometric forms, colors, etc. We want to create a new language of typography whose elasticity, variability; and freshness of typographical composition is exclusively dictated by the inner law of expression and the optical effect"*

The example below shows László Moholy-Nagy's vision of linear typography (Moholy-Nagy, 1969:39).

COMMUNICATION ← TYPOGRAPHY → PERSON

On the other hand, media theorist Lev Manovich have updated the concept of 'New' in his significant article titled 'Avant-garde as Software' (2002). According to Manovich (2002:1): *"during 1920s so many resource were published titled 'new' by artist, designers, architects and photographers. In the 1990s the word 'new' re-appeared once again. But now it was paired not with particular media such as photography, print, and film but with media in general. The result was the term 'new media'. This term was used as a short cut for new cultural forms which depend on digital computers for distribution. But beyond its descriptive meaning, the term also carried with it some of the same promise which animated the just mentioned books and manifests from the 1920s – that of the radical cultural innovation"*.

At this point, 'transformation, variation, accumulation' and becoming' are key terms here related to this updating. it can be said that the updating is associated with these terms. From 1920s to modern-day, redefining, imitating, reinterpreting and reusing Bauhaus's design principles indicates us Bauhaus's transformation and variation to contemporary within 21st century technology and culture. Also, transforming old design theories to the new culture is a kind of cultural accumulation. Thus, Bauhaus become an archival culture.

Deleuze and Guattari explains 'becoming' in their book titled 'A Thousand Plateaus';

*ideas do not die. Not that they survive simply as archaisms. At a given moment they may reach a scientific stage, and then lose that status or emigrate to other sciences. Their application and status, even their form and content, may change; yet they retain something essential throughout the process, across the displacement, in the distribution of a new domain. Ideas are always reusable, because they have been usable before, but in the most varied of actual modes (2005:235).*

In this case, neither 1920s ideas nor the Bauhaus died. They became 'New Bauhaus' or they have been transformed into new ideas and these continue in rhizomatic structure.

Learning proceeds gradually within the rhizomatic learning.

As is well known, during the turbulent and often dangerous years of World War II, many of key figures of the Bauhaus emigrated to United States to escape from Nazis, where their work and their teaching philosophies influenced generation of young architects and designers. Breuer and Gropius taught at Harvard. Josef and Anni

Albers taught at Black Mountain College, and later Josef taught at Yale. Moholy-Nagy established the New Bauhaus in Chicago in 1937. Mies van der Rohe designed the campus and taught at Illinois Institute of Technology (Winton, 2007).

For this reason, Bauhaus evolved to New Bauhaus in Chicago and spread its philosophy all around the world. Even though Nazis wanted to destroy and erase its culture and deterritorialize the artists, they could not succeed to kill the ideas. Ideas converted into qualified new ideas. As Deleuze and Guattari said; “*becoming can and should be qualified...*” (2005: 238). Deterritorialization suddenly became reterritorialization.

In the light of all the facts mentioned above, it can be said that, from 1920s and before to nowadays, graphic design aesthetics have fundamentally built up according to the basics of;

- Futuristic aesthetics,
- Dadaists aesthetics,
- Expressionists aesthetics,
- Post-Expressionists aesthetics,
- Constructivist aesthetics,
- Bauhaus aesthetics,

Moreover, today still we are using Bauhaus aesthetics in the interface design. Bauhaus both have established aesthetics principles and have transferred them to new generations and it continues to exist in liberal capitalism, especially in industrial design and advertisement sector. Much was done during 1920s such as new invents, new experimental applications, new techniques, new, printings, new technologies, new vision.

On the other hand, after 1920s, the aesthetics approach began to evolve with technological advancements. Artists used always devices, tools and machines to make their work easy. From Renaissance to invention of Camera Obscura. In post-modern society, however, new aesthetics approaches emerged. A dialectic developed between aesthetics and technical devices. Post-modern aesthetics updated all artistic attitude and became a ‘*crucial point*’, an ‘*intersection point*’. Using of machine, technology and digital generated new aesthetics principles. New avant-garde interpenetrates all of them. Although machine and technology- aesthetics basically rely on the using of devices and tools dates back to 19th century, digital aesthetics evolves in the shadow of digital culture. Digital culture envelopes to contemporary culture. But, mostly it is blurred the differences between them. In this frame, in contemporary age, graphic design aesthetics have largely built up according to the basics of;

- Post-modernist aesthetics,

- Machine aesthetics,
- Technology-aesthetics,
- Digital aesthetics,
- New Media aesthetics,

Besides, new media basically depends on the digital computers and is a result of technology-aesthetics. Manovich associates new media with Bauhaus. New media is also a transformation 1920s avant-garde spirit to new virtual and cultural environment. Manovich analyses the transformation of the 1920s avant-garde techniques into the conventions of modern human-computer interface (HCI) such as overlapping windows and Mogoly-Nagy, El Lissitzky, Jan Tschiodl, Aleksander Rodchenko are some of key figures (Manovich, 2002:6).

Lev Manovich defines 'new media' as a new stage of new avant-garde both in his book, *The Language of New Media* (2001) and in his article *Avantgarde As Software* (2002). According to Manovich, (2002:5): *"1920s communication techniques acquire a new status. Thus new media does represent a new stage of the avant-garde. The techniques invented by the 1920s Left artists became embedded in the commands and interface metaphors of computer software. In short, the avant-garde vision became materialized in a computer. All the strategies developed to awaken audiences from a dream-existence of bourgeois society (constructivist design, New Typography, avant-garde cinematography and film editing, photo-montage, etc.) now define the basic routine of a post-industrial society: the interaction with a computer"*.

Nowadays, in the 21st Century, we live in digital culture and Cyber Era when communication techniques improve rapidly along with the technology, developments of hardware and software technology. In this case, graphic design gained a new status. Graphic design has been always current by its nature. Among all design discipline, it probably the most current design field, and it has been always in a good relationship with technology. Technology feeds graphic design, graphic design feeds technology. Thus, in this digital age, graphic design have been changed according to popular culture needs. Now, interfaces, game design, motion graphic, web-based media, concept design, public installation, video installation, corporate identities, posters or interactive posters reflects aesthetics of Cyber Era from color to technique, from content to application. Cyber Era creates new passions. Based on this idea, which is brings us to speak graphic design and cyber culture.

### **3. CYBER- AESTHETIC ISSUES AND GRAPHIC DESIGN**

Every historical period has its own characteristic, culture and variances. Mostly, based on the developments that has been through, they also represent the cultural

reflection of the period. Thus, the most well-known definitions of 21st Century are Information Age, Digital Age, Internet Age or Cyber Era and now Experience Age. Cyber Era has also its own features, terminology, visual vicissitude, visual language and aesthetic. Perhaps, different from other periods, Cyber Era has created the concepts such as *cyberspace*, *cyber-culture*, *cyber-punk*, *cybernetics*, *cybersecurity*, *cybercrime*, *cybersex*, *cyber art* and *cyber-aesthetics* that radically changed our point of view and perception. Visually, the easiest way to define and recognize the periods is to point out the aesthetics reflections, which is cyber-aesthetics in this period.

Aesthetics is always problematic subject discussed, especially in philosophy as well as in philosophy of art. Key figures of philosophy, theorist or critics such as Lacan, Marx, Kant, Deleuze & Guattari, Foucault, Derrida, Eagleton have interpreted aesthetics in terms of social, political, material life, or political hegemony etc.

As Terry Eagleton explained in *The Ideology of Aesthetics*; “*the aesthetics is the first stirrings of a primitive, incipient materialism, politically quite indispensable... The aesthetic, in other words, marks an historic shift from what we might now. What matters in aesthetics is not art but the whole project of reconstructing the human subject from the inside, informing its subtlest affections and bodily responses with this law which is not a law. Aesthetics are not only incipiently materialist; they also provide, at the very heart of the enlightenment...*” (1988:328-337).

Historic shift mentioned by Eagleton above can interpreted as a revolution of information, digital technology and a revolution of visual language in 21st century. This also means a paradigm shift in cultural structure. According to Bard and Söderqvist, “*a new, dominant information technology changes everything, not least language. This is partly because of new terminology, new words for new toys, but the most interesting and to an extent, most problematic aspect of this is that old world assume new meanings. As the language changes, so does our thinking. New technology redefines basic concepts such as knowledge and truth; it re-programmes society’s perceptions of what is important and unimportant, what is possible and impossible and, above all else, what is real. Reality assumes new expressions*” (2015: 23).

With the paradigm shift of the information age, and the changing the language of 21st century, design culture and our aesthetics perception have also altered simultaneously. The rise of cyber culture has made it necessary to underline the relationship between graphic design and cyber culture and made necessary to show key design elements of cyber aesthetics in graphic. Traditional aesthetics theories can no longer completely interpret artistic styles of cyber culture and new morphology of our age. Therefore, it has to be illustrated new aesthetics profile.

We live in a visual world. Graphic design illustrates our world, our past, our present and our future. It creates us sometimes real, sometimes imaginary and sometimes futuristic world and touches us via images, types, shapes, space etc. and

mostly it reflects visually cultural conditions. Graphic design communicates with us visually. However, in Cyber Era, the principles of this visual language turned into cyber aesthetic principles. For this reason, by illustrating these principles we can make them easier to identify and understand.

Since William Gibson created cyber-punk as a genre in his novel titled '*Neuromancer*' (1984), cyber-aesthetic came into our lives as well. No doubt the fact that when *Neuromancer* first published, (long before the internet was created) it was the avant-garde in the digital science fiction genre, especially in literature. Gibson presents the readers a high-tech world without any limitations by the social and political context like in real world. He provides a world that we can barely imagine in 1980s. We will turn back to *Neuromancer* later but firstly, it needs to be mentioned novel's atmosphere and some aesthetics clues inside the book.

*"The sky above the port was the color of television, tuned to a dead channel"* is the opening line of novel. The setting of novel has been clearly described in the first line. Gibson draws connection between a high-technology and a run-down, damaged world depended on video and cyberspace. He creates an emotional atmosphere. Night City, cyberspace, holograms, laser beams, neon colors like neon purple, neon blue, neon red and neon lights in the streets, magnetic locks, shinning words, bright letters and types are the key factors and clues to define novel's atmosphere. Furthermore, they are also key words to us to illustrate cyber-aesthetics.

Graham Murphy and Lars Schmeink describes cyberpunk aesthetics in their book called '*Cyberpunk and Visual Culture*' (2017) within the frame of three markers, 'color, space and shape'. However, in this part, it will be make an addendum to these three markers, which is typography.

As is known already, there are some basic design elements as color, the line, types, the shape, space, texture, value, perspective etc, that graphic design uses these elements. Therefore, the evaluating of cyber-aesthetics in this part will shaped in terms of;

- Colors
- Typography and Typeface
- Space
- Shape

### **3.1. Colors**

As Bard and Soderqvist in their book '*The Futurica Trilogy*' (2012:29-) mentioned that *"writing about the future is obviously incredibly problematic because it does not yet exist. The best we can do is to produce more or less qualified guesswork. Someone who understands how dominant information technologies have played out*

*their hands throughout history, and who understands how the dynamism within and between digital networks functions, has the best possible preconceptions for grasping the essential points of the current revolution”.*

As writing about the future is obviously problematic, so does creating and producing images and designing. Hence, we create more or less an imaginary world, designs, interface designs and much more with the dynamic of new social and cultural paradigm, technological conditions and time spirit. We try to make possible futuristic images according to what we have and what we know and what we dream. Additionally, we create possible futuristic aesthetics. Moreover, these futuristic approaches or styles influence our world we live in now.

At this point, color is one of the most significant elements to build this cyber-aesthetics. In general, although neon colors reflect futuristic style, the color palettes for cyber-aesthetic can be expanded. Dark and bright colors, (usually, purple, blue, red etc), terminal colors, vibrant neon colors reflect this futuristic world. Yellow, orange, golds, blues, violet and hints of green are the colors used. Black and white can also be cyberpunk with bright light in screen, monitors and in videos as well as in city skyline.

Even though the concepts of cyberpunk and cyberspace came out in *Neuromancer* (1984) for the first time, the movie of ‘*Blade Runner*’ (1982) directed by Ridley Scott, for instance, is the first science fiction movie that gives us cyberpunk clues. The atmosphere in the movie is similar with *Neuromancer*. A dark sky, neon lights in the streets, screens or led screens, neon colors, futuristic typefaces, high-tech and low life appeared in the movie in 1982. However, we will focus on the movie poster here. At first glance, although the original poster can be seen a classical movie poster, cyber-aesthetics elements dominate the design. In the background, back of the head of Harrison Ford, it can be seen bright colors such as blue, purple, red and yellow with black. To reflect the atmosphere of movie, neon letters was used in the poster, which is this gives us some clues about the street view and the city view in the movie.

Another and current example is the movie of *Ghost in the Shell* (2017) directed by Rupert Sanders. The movie is totally a cyber punk science fiction. In addition, there is a completely cyber look. In the poster, our protagonist (which is Scarlett Johansson) is in the center. Also, the appearance of the protagonist is the appearance of trans-human identity and a new post-human ontology but above all else, the colors mostly tell the story of the movie. Bright color palettes, neon red, blue, purple, black, bright green, yellow and orange. In the poster, colors are the protagonist and they all are a representation of the ambience of the movie based on high-tech. In turn, colors assume new expressions here.



### **3.2. Typography and Typeface**

In this part, we will not discuss the topics like ‘What is typography?’ or ‘The history of Typography’, or ‘Why is typography important?’ or ‘The Great Typographer in Graphic Design History’ etc. But, the discussion will be limited within the frame of the characteristic of typography in cyber-aesthetics.

Influential graphic designer and art educator Paula Scher said that “*Words have meaning. Type has spirit. The combination is spectacular*”. Typography is perhaps the best way to reflect the time spirit and the characteristic of the context. Typography makes our world readable and reflects the personality of any kind of design. The developments of typeface design in 20<sup>th</sup> century have basically effected most field. Frederic William Goudy was one of the first type designer. He started to design typefaces in 1900s and created many typefaces from Goudy Old Style to Garamond, which is still in use. And then, with the improvement of technology, and the information technologies, by the late of 1980s, TrueType fonts were created, which allowed us for both computer displays and output devices. Thus, it has been provided the user a huge diversity of fonts. In 21st Century, technological shifts brought considerable advances in variety of font styles and typefaces. Many typographer and designer designed and still design thousands of typefaces.

Nowadays, these typefaces can be classified, uploaded and downloaded easily to the computers as well as software. No doubt that typography is a vital component of user interface design and computer media. It is a key factor of today’s mass visual culture. In this point, typefaces and font used in any media personalize our designs. Using futuristic fonts provides a futuristic interface. Not only futuristic typeface presents a futuristic view but also typographic videos, animations, kinetic typography, neon light texts, neon logotype applications consist a cyber-aesthetics almost everywhere.

A specific example came out from graphic designer and filmmaker Andrew Sloat in Times Square, New York. ‘*Amendment One (Excerpts)*’ (2013) was presented by Times Square Arts and Times Square Advertising Coalition with collaboration AGIGA/NY & Times Square Alliance. Sloat was created ephemera videos which consists of huge sans -serif fonts and dynamic typography. Furthermore, they exhibited the work in twelve screens at the same time the most iconic place in the world, Times Square. Huge bright letters with meaningful and simple words (which is, ‘United States’, ‘Freedom’ ‘Constitution’, ‘Congress’) bright and neon colors like white, orange, blue, green, yellow and purple (in short Times Square cyber colors) give a glance of futuristic epic space. Thus, it was created a cyber-aesthetics in public, which is in already cyberspace.

According to Tsqarts and Sloat (2020), *Midnight Moment, a twelve-channel video celebrated the simple words that make this globally famous place possible, using*

*a few of the basic elements that form Times Square: color, words and movement. By placing the text amidst the swirling masses who have come to witness the most famous crossroads of individual and commercial speech, this film asked the viewer to pause and reflect on the condition of our elemental freedoms, which we sometimes take for granted.*

### **3.3. Space**

According to Graham and Schmeink (2017), the space is one of the cyber-aesthetic markers and they describe that the space usually is underground and dark, however, it is a real world environment.

In general, visual representation of cyberpunk is dominated by underground aesthetics. High-tech and low life brings also neon aesthetics in the spaces. In movies series such as 'The Matrix' (1999), 'Terminator' (1984), vibrant city-space, streets, and any space have dark atmosphere and neon lights. The world itself is dark. This underground aesthetics is dominated not only in movie but also the whole outcomes from posters to videos, from billboard to all advertising media. In turn, this aspect creates its own aesthetic spaces and visual language. It reflects on almost all interface design. An interesting example is that in the trailer of Matrix (1999), the well-known Warner Bros. Picture logo all around the world was converted into dark neon green, the similar color of Matrix's codes (digital rain).

The similar situation can be seen in graphic novels, animations, concept art, cartoons, comics, videos and video games related to cyberpunk or not. Whether the spaces, surfaces and interfaces are three dimensional or not, they are usually dark, underground and mostly ahead of the time.

### **3.4. Shape**

According to Meggs (n.d), rapid advances in onscreen software also enabled designers to make elements transparent; to shape, stretch, scale, and bend elements; to layer type and images in space; and to combine imagery into complex montages. For example, designing a website involves the layout of screens of information rather than of pages, but approaches to the use of type, images, and color are similar to those used for print. Web design, however, requires a host of new considerations, including designing for navigation through the site and for using hypertext links to jump to additional information.

Shapes includes mostly futuristic expressions in cyberpunk visual expressions and images are vertical, horizontal, and geometrical shapes and usually there are strong focal area. There are spesific applications of shapes in visual image.

#### **4. CYBER-GRAPHIC DESIGN**

In 1984, William Gibson created cyberpunk as a literature genre. Since then, it has also associated with visual culture. Gibson's cyberpunk, however, takes virtual technology several steps further by introducing '*cyberspace or virtual reality*'. Even if cyberpunk is applied to both the visual aesthetics and to key plot points in cyberpunk, the extrapolation of late capitalism and postmodernity appears in the way that most cyber culture is set in a future where almost every aspect of human life has become commercialized. Thus, cyber-culture maps the landscape of the near future, impelling artists and designers to provide of new stages of social and technological development. But, cyber culture is an extensive concept including information and communication technologies, media and new media, theories, ideas, literature, art, design, and cultural studies.

Manuel Castells in his book called 'The Rise of the Network Society' (2010) points out his hypothesis that 'real virtuality' (which is a synonym for cyber culture) is a new form of culture based on digitized networks and of multimodal communication.

According to Castells (2010) *"a new culture is forming, the culture of real virtuality, in which the digitized networks of multimodal communication have become so inclusive of all cultural expressions and personal experiences that they have made virtuality a fundamental dimension of our reality. ...on-line communities are fast developing not as a virtual world, but as a real virtuality integrated with other forms of interaction in an increasingly hybridized everyday life."*

At this point, it can be said that this virtuality stressed by Castells has been changed social structure. However, most importantly, it changed our willing, needs, expectations, our lifestyle and everyday life. Everything is in flux. Within the flow of information, human being started a futuristic design of life. The cultural paradigm shift mentioned above in other parts of this article made almost everything possible. Nowadays, holograms, videos, interactive applications, videos, smartphones, spaceships, robots, artificial intelligence and drones etc. became a part of our life, which is barely possible to imagine almost two decades before. For this reason, our reactions, habits, our way of think, our world and our visual culture have modified towards a new global social structure that dominate by disruptive technologies

According to Bard and Söderqvist (2015: 27), *"...the changing itself is the only thing that is permanent. Everything is fluid. The social and economic stability that has been the ideal and the norm is becoming more and more the exception and a sign of stagnation. it is not enough to think, or not to think in new ways; it is now necessary to rethink constantly, and to think away old thoughts. Creative destruction never rest."*

Perhaps, the most visible places to see the transformation of our life style are cities. Cities are redesigning themselves over time. They have modified according

to time conditions. For Castells again, “*technology does not determine society: it is society. Society shapes technology according to the needs, values, and interests of people who use the technology*” (2005: 3). Also, he expresses that “*all major social changes are ultimately characterized by a transformation of space and time in the human experience*” (2010). Thus, the concept of cyber city came out. Although the term itself is a problematic, a city systematically integrated innovative, modern information technologies and organized systematically from transportation system to digital security can be cyber city.

We live in a system in cities. For this reason, in cyber cities, system is a key figure. And this system generates city interface as well. Everything in a city is a part of the city. Therefore, any design also generates this interface. Everything what we see is a design. Everything around us is designed. Accordingly, graphic design became an indispensable field to mention it.

On the other hand, with the digital revolution along with Word Wide Web (2000) and rapid improvement of hardware and software systems, graphic design have radically evolved towards digital. Quick access to internet, commercializing of internet, growth of global economy, willing to organizations, intuitions and businesses to establish a web site, growth and competitions in advertisement sectors opened new working areas to graphic design and designers. Nowadays, for this reason, graphic design is everywhere. Almost everything around us is a graphic design product. According to graphic designer, historian and author Philip Baxter Meggs, (n.d) “*in the 21st century, graphic design is **ubiquitous**; it is a major component of our complex print and electronic information systems. It permeates contemporary society, delivering information, product identification, entertainment, and persuasive messages. The relentless advance of technology has changed dramatically the way graphic designs are created and distributed to a mass audience*”.

At this point, we need to turn back to Castells idea that “*Society shapes technology according to the needs, values, and interests of people who use the technology*” (2005: 3). Here, it is possible to say that cyber culture shapes graphic design, but also, graphic design shapes cyber culture and visual language in digital age. They feed each other.

New York, Tokyo, Istanbul, Kuala Lumpur, Shanghai, Beijing, Hong Kong are some of cyber city examples. Graphic design, digital advertisement, all digital and electronic devices like kiosk, Silvercast billboards are very effective to shape the face of cyber city. Mapping, motion graphics, public installations, videos are other components. The most iconic mapping place, for instance, is Sydney Opera House. In the Opera house where is famous for architecture appears mapping and 3D projection mapping shows annually as part of Vivid LIVE music festival. With the bright lights, neon colors, motion graphic, and projection works, the building

gains a different artistic view and gains a different meaning. Its interface changes. It turns a cyberspace. Moreover, the city become a cyber-city.

Another example, Times Square (as it is mentioned before) is the most iconic urban place when it comes to cyberspace and cyber design. Huge led screen, numerous electronic billboards, fluid images and types, neon and bright color of digital advertisements, digital sign, the flow of information are all around the square and the New York City and they are mostly graphic design products. Thus, it became an obligation to talk about ‘*cyber-punk graphic design or cyber-graphic design.*’ In short, cyber-graphic design can be identified as all graphic design applications that enables to hypertext transmissions and includes almost the whole components of cyberculture and cyber-aesthetics with digital technology, cybernetics and hardware and software technology.

*Figure 1. Photographed by Selma Kozak, Times Square / New York, 2019*



An another important detail on Times Square, despite the fact that the concept of cyberspace used differently by Gibson in Neuromancer (1984) which is a ‘*paralleled virtual reality*’ where the protagonists pass through, today, the concept

uses extensively. Thus, Time Square is a cyberspace. The Square has a view of postmodern cyber city and cyberspace at first glance with all colorful and digital atmosphere. It is like another world, or is a part of another world. I will call it 'cyber-hole'. Hence, cyberspace becomes a Wonderland. We requestions our reality like Alice in Wonderland (1864). What is real and unreal? it is, however, a real world environment in Cyber Era.

*Figure 2. Photographed by Selma Kozak, Times Square / New York, 2019*



## **5. MESSAGES FOR THE CITY**

Not only commercial designs but also artworks by designers and artists appears in Times Square. Artists and designers exhibit their video art, public installation, video installation, posters or any kind of art. For this reason, it turns an exhibition place.

Everything is fluid in Times Square. Everything is so fast and changeable. In April, 2020, for instance, designers and artists in collaboration with Times Square Arts, Poster House, Print Magazine, and For Freedoms launched a citywide public art campaign during Covid-19 times including messages for love, gratitude, and solidarity with New York City's health care and essential workers which is 'Messages for the City' (April 17, 2020). During global pandemic, artists and designers told and are still telling the story of the outbreak. While the world goes through extraordinary times, our habits, life style, our education system, production, art and cultural

activities, advertisements sectors, our industry have been fundamentally disrupted. However, our lives have integrated to technology. Currently, almost everything is digital. Everything is online, so does and art and design.

World famous graphic designers like Milton Glaser, Paula Scher and Jeff Close, illustrator Edel Rodriguez, and other designers like Zipeng Zhu, Maira Kalman, Gemma O'Brien, Christine Sun Kim and artists like Jenny Holzer, Carrie Mae Weems, Pedro Reyes, Duke Riley exhibited their works in Times Square during global pandemic. The works appeared almost all huge led screens. They created posters, video installations and interactive posters. Some messages on posters are 'New York Loves You' by Edel Rodriguez, 'Love in Times Corona' by Maira Kalman, 'Thank You Essential Workers' by Gemma O'Brien, '6 Feet is' by Matt Dorfman, 'Dear Essential Workers, Thank you' by Christine Sun Kim was all around Times Square and New York, in 1800 kiosk and huge digital screens.

According to Tsqarts, (2020): *radiating out from the screens of iconic Times Square to the digital billboards above Lincoln Tunnel and nearly 1800 LinkNYC kiosks and Silvercast billboards and screen across all five boroughs, the initiative turns our city's digital displays into platforms of public service and appreciation through the lens of established and emerging graphic designers and visual artists from around the world. A rotating display of designs will be on view in Times Square on an ongoing basis at the 15, 30, and 45- minute marks throughout each day.*

## CONCLUSION

Cyberculture is completely an interdisciplinary concept that has changed the society and cultural conditions. Cyberculture is a culture of post-modern society and has a modernist and futuristic spirit. While it changes radically the society, our point of view and perception, it contains intertextual and hypertextual links itself.

As a result, Graphic design is influenced by the whole components of cyber aesthetics and cyber culture. With cyberculture, graphic design;

- gains a new status.
- illustrates a new aesthetics profile,
- enables to hypertext transmissions,
- has new terms and new terminology,
- makes extraordinary graphic design applications,
- has new aesthetics principles and applications,
- develops cyber aesthetic principles itself.
- reflects a new dialectic of visual language,
- changes our aesthetics perception,

- enlarges mostly based on digital technologies.

## REFERENCES

- Abbott, L. E. (2019). *The ABC's of Triangle, Square, Circle: The Bauhaus and Design Theory*. Princeton Architectural Press.
- Atay, S. (2019). Post-Soviet Era and Postmodern Image Production. *Revista de Științe Politice. Revue des Sciences Politiques*, 6, 92–103.
- Atay, S. (2019). Killing Commendatore In-Between. *European Journal of Literary Studies*, 2, 55–64.
- Bard, A., & Söderqvist, J. (2012). *The Futurica Trilogy* (N. Smith, Trans.). Stockholm Text.
- Bard, A., & Söderqvist, J. (2015). *The Netocrats - Futurica Trilogy, Part I*. Karakalem Kitabevi.
- Castells, M. (2010). The Rise of The Network Society: The Information Age Economy. *Society and Culture*, 1.
- Castells, M., & Cardoso, G. (2005). *The Network Society: From Knowledge to Policy*. Johns Hopkins Center for Transatlantic Relations.
- Deleuze, G., & Felix, G. (2005). *A Thousand Plateaus Capitalism and Schizophrenia*. Minneapolis: The University of Minnesota Press.
- Eagleton, T. (1988). The Ideology of the Aesthetic. *Poetic Today Duke University Press*, 9(2), 327–338. doi:10.2307/1772692
- Eskilson, S. J. (2007). *Graphic Design A New History*. Laurence King Publishing.
- Gibson, W. (2016). *Neuromancer*. Altıkırkbes Yayınları.
- Kostelanetz, R. (Ed.). (1991). *Moholy-Nagy An Anthology*. Da Capo Press.
- Lupton, E., & Miller, J. A. (Eds.). (2019). *The ABCs of Triangle, Square, Circle: The Bauhaus and Design Theory*. Princeton Architectural Press.
- Manovich, L. (2001). *The Language of New Media*. The MIT Press.
- Manovich, L. (2002). *Avant-garde as Software, From "New Vision" to New Media*. General Format. [http://manovich.net/content/04-projects/027-avant-garde-as-software/24\\_article\\_1999.pdf](http://manovich.net/content/04-projects/027-avant-garde-as-software/24_article_1999.pdf)



Manovich, L. (2013). Media After Software. *Journal of Visual Culture*, 12(1), 30–37. doi:10.1177/1470412912470237

Meggs, P. B. (n.d.). *The digital revolution*. General format. <https://www.britannica.com/art/graphic-design/The-digital-revolution>

Moholy-Nagy, L. (1923). *The New Typography [1923]—Laszlo Moholy-Nagy*. General format. <https://designopendata.wordpress.com/portfolio/the-new-typography/>

Moholy-Nagy, L. (1947). *The New Vision Fundamentals of Bauhaus Design, Painting, Sculpture and Architecture with Abstract of An Artist*. Dover Publications, Inc.

Moholy-Nagy, L. (1969). *Painting, Photography, Film A Bauhaus Book*. Lund Humphries.

Murphy, G. J., & Schmeink, L. (Eds.). (2017). *Cyberpunk and Visual Culture*. Routledge. doi:10.4324/9781315161372

Sloat, A. (2013). *Amendment One (Excerpts)*. General format. <http://www.andrewsloat.com/work/1258/>

Times Square Arts. (2013). *1st Amendment (excerpts)*. General format. <http://arts.timessquarenyc.org/times-square-arts/projects/midnight-moment/1st-amendment-excerpts/index.aspx>

Times Square Arts. (2020). *Messages for the City*. General format. <http://arts.timessquarenyc.org/times-square-arts/projects/at-the-crossroads/messages-for-the-city/index.aspx#:~:text=Times%20Square%20Arts%2C%20Poster%20House,health%20care%20and%20essential%20workers>

Winton, A. G. (2007). *The Bauhaus, 1919–1933*. General format. [https://www.metmuseum.org/toah/hd/bauh/hd\\_bauh.htm](https://www.metmuseum.org/toah/hd/bauh/hd_bauh.htm)

## KEY TERMS AND DEFINITIONS

**Cyber City:** Is a system. A city systematically integrated innovative, modern information technologies and organized systematically from transportation system to digital security is a cyber city.

**Cyber Colors:** are mostly neon bright and vibrant colors used to form a futuristic view.

**Cyber-Aesthetics:** Is the whole reflections of aesthetics emerged from reflections of social and cultural effects of cybernetics and cyber culture on art.

**Cyber-Graphic Design:** Can be identified as all graphic design applications that enables to hypertext transmissions and includes almost the whole components of cyberculture and cyber-aesthetics with digital technology, cybernetics and hardware and software technology.

**Cyber-Hole:** Is a space that has completely a digital atmosphere.

**Cyberspace:** Is a cyber-environment used for the first time in the novel of Neuromancer (1984).

**Real Virtuality:** Is a form of culture based on digital, technology and computers, similar with the term of cyberculture used by Manuel Castells.

## Chapter 10

# The Relationship of Human Intelligence With Technique/Technology: From Intelligence Designing Tools to Learning Machines of Cybernetic Culture

**Ali Gurbuz**

*Ankara Hacı Bayram Veli University, Turkey*

**Ozge Nilay Erbalaban Gürbüz**

*Cukurova University, Turkey*

### **ABSTRACT**

*The history of creating technical/technological tools continues, from the days when man designed the first tools to the days when artificial intelligence was designed. In this adventure, which ranges from the production of the first tools to the development of the method of burning fire, from communication tools to the idea of society as a technical abstraction, from war tools to clocks, machines, automatons, and artificial intelligence, will be analyzed the functions of intelligence philosophically and historically. Today's cybernetic societies, where artificial intelligence is developed, are a natural consequence of the technical/technological evolution of human intelligence. In this transition period, where the creation of artificial intelligence and the anthropological future of the human species are discussed together, the perspectives of philosophical culture that are stuck between artificial and natural dilemmas will be explored. Through analysis of Steven Spielberg's Artificial Intelligence film, the meaning of cyber future perception in culture will be revealed.*

DOI: 10.4018/978-1-5225-8024-9.ch010

## **INTRODUCTION**

The article examines the historical transformations of creating technical / technological tools from the days when man designed the first tools to the days when machines were created, learning under the influence of Cybernetic Culture with a philosophical-historical perspective, and it explores the orientation of human intelligence to a better life in its efforts to bring life, which is prone to disorder, to a regular form. It will analyze the development of the search for better order towards a cybernetic world, where human intelligence leads through technical / technological inventions. In parallel with the increase in the knowledge of humanity, the vital breakthroughs of intelligence in the main haunts leading to the creation of a perfect order will be discussed.

Man's transition from animal to human has become available due to the development of his intelligence. As human intelligence continues to evolve, so will evolutionary changes. As man, with the help of his intelligence, develops technical tools and adapts to the alienating conditions of these technical tools, human evolution will continue. Man is a creature open to the definition of technique. The technique determines human life in a multidimensional way. By defining the technique, man transforms his own nature and his own consciousness. Technical development from the simplest tools to the most advanced learning machines has guided the entire existence of man. Wiener states that we are in the determination of technique and adapt ourselves according to technique (Wiener, 1989, p. 46).

Since the technique has helped reduce the effort made to live, it also has given life order by determining the way of life. According to the law of entropy, the possibility that everything would drift towards disorder has led to the idea of order having a central function for human life. The technique has helped create a regular life. People who have lived in nature for a long time in the possibility of disorder have realized the importance of creating a regular social life. The lack of order of life in nature has made man feel the benefit of regulating life through technical tools discovered through intelligence. Social order arose from the existence of the idea of pre-social disorder. The challenge of an irregular life has led people to seek a better life and from that point to seek the idea of a better order. Human life on earth has been based on choices between the possibilities of order and disorder. The negativities of disorder have developed ideas for preferring an orderly life for a better life. Technique / technology is one of the means of streamlining the tendency of humanity's life on earth to disorder. As Wiener states "the machine, like the living organism, is, as I have said, a device which locally and temporarily seems to resist the general tendency for the increase of entropy. By its ability to make decisions it can produce around it a local zone of organization in a world whose general tendency is to run down" (Wiener, 1989, p. 34). These tools for the purification of life from

its flaws have also led to the search for the idea of a perfect order. In a world where everything is prone to disorder, the science of cybernetics has arisen from the search for how to establish the idea of a competent order that could make the functioning of the universe flawless. In order to avoid the drift of the established order of life into disorder, it is aimed to achieve the necessary knowledge for a perfect order by combining knowledge on the universe. In light of the problems of order and disorder that Bergson cares about in terms of information theory (Bergson, 2018, p. 285), the science of cybernetics has identified the relationships that the science of the future should be oriented towards. In the article, in the development stages of human life on earth, through the philosophical-historical analysis of technical / technological tools created by the intricate relations of personal and general intelligence, the influence of intelligence will be tried to reveal in the transformations of man's quest to create a perfect order.

## **HOMO FABER'S EFFORT AND EVOLUTION DETERMINED BY PRACTICAL REASON**

The transition of a creature called man from animal to human is explained as a process in the philosophers' philosophies. Human beings, who guide their life with their instincts in the state of nature, have maintained their existence with the help of practical reason. Alfred N. Whitehead (Whitehead, 2019) explained this process, which spans millions of years, as times when Practical Reason prevails. This kind of point of view also assumes that in order for humanoids to develop towards humans, humans are not in the determination of pure instinct. Since the existence of pure instinct, the acceptance of the disappearance of practical reason would be to ignore the development of humanoids towards man, it can be accepted that humanoids survive with practical reason as well as with their instincts. Marx states that in the adventure of man being human, his hand was the dominant determinant of the existence of labor through the hand. The adventure of man to be human has begun through Labor, which is a human activity. "As soon as humans begin to produce their own means of livelihood - a step conditioned by their physical organization - they begin to distinguish themselves from animals" (Marx, 2004, p.112). However, Marx explains the use of human labor as an activity that accompanies a mental design, unlike living things that act instinctively. It is instinctive for bees to make honeycombs, while for humans to make technical tools has been the result of a mental design. If we talk about a human being, it means a living being that can use its mind. For this reason, human transition from animal to human is a result of the unity of labor and mind. The difficulties encountered for the maintenance of life in nature have led man to work his mind for a better life. The use of the mind

has been a result of the search for a better life. The development of fire-burning techniques, hunting tools, food containers, the creation of shelters and many other technical innovations have been discovered as a result of the use of the human mind in search of a better life. The adventure of being a human is mentally determined. Human beings, who become proficient in using their minds every day, have mentally managed the transition from animal to human.

Nietzsche emphasizes that in the early days of evolution, human nature was backward in terms of consciousness, while it was not yet included in the herd. For a state of consciousness, a person must communicate with other people. In the first phase of the state of nature, consciousness is not sufficiently developed, as a community based on communication has not yet been formed. "I can advance the assumption that consciousness develops through the pressure of the need for communication; from the beginning, it is only necessary, useful among people, it develops in proportion to this benefit. Consciousness is actually only a network of communication between humans, but it is imperative that it be developed by this nature; a person living alone, like a predator, would not need it" (Nietzsche, 2003, p. 226). A person whose lineage is endangered in the state of nature has felt the need to communicate with people who are facing the dangers of the state of nature, such as himself, because he needs others. Therefore, Nietzsche states that "consciousness does not in essence belong to the individual being of man, but rather to his social or herd nature" (Nietzsche, 2003, p. 226). Considering the expression of Rousseau, who puts down that in nature "knowing death, the horror of death, is one of the first gains that man receives when moving away from his animal state" (Rousseau, 2016:105), an understanding is reached that a creature trying to escape death in nature does not need to think, to act consciously. "The development of consciousness is a danger" (Nietzsche, 2003, p. 227) because it has the potential to avoid death before a civilized life, in nature, while excess consciousness would endanger life. Before the social contract that led to the establishment of a civilized life, consciousness in the state of nature was overdeveloped, which would have caused people to succumb to nature. Thus, we can understand philosophically that people do not even have the opportunity to think consciously before building safe living spaces.

There is a relationship between the discovery of words, which are technical tools that give order to life, and the development of language and the development of consciousness. The development of language as a technical abstraction is necessary for the development of a conscious life. When consciousness has begun to develop in a partial sense, the existence of a social contract necessary for the development of consciousness has been realized. Conscious thinking has not been possible without the "technical abstraction" called society. Society has offered people who live their lives with a towel an opportunity to stop and think. The competence of consciousness of a creature called man has developed after the state of society. On

the other hand, the technical means of seeking a better life have always improved. Technical materials, language, the idea of society as a technical abstraction also required the adaptation of human consciousness to the processes created. Wiener writes that “we are the slaves of our technical improvement...We have modified our environment so radically that we must now modify ourselves in order to exist in this new environment” (Wiener, 1989, p. 46). Changes from the simplest form of the technique to the most advanced forms have also improved the processes in which the technique determines human life.

Beyond being a mere tool of benefit, the technique required the adaptation of human intelligence to the technique. For this reason, people have to change themselves in order to adapt to the processes driven by technical development. The intelligence that created the technique has also determined the lives of the intelligences that used the technique. Heidegger notes down that the essence of technique is nothing technical (Heidegger, 1998, p. 9). After emphasizing that revealing the essence of technique is a philosophical existential assignment, he states “what is dangerous is not the technique itself. There is no such thing as the demonism of technique; more often, there is such a thing as the mystique of its essence” (Heidegger, 1998, p. 35). The uncovering of the mystery at the core of the technique is the uncovering of the anthropological essence of human life.

Alfred North Whitehead explains the mental processes that Althusser explained with the concept of ‘technical abstraction’ and Heidegger ‘technique’ with the concept of ‘practical reason’. Emphasizing that there are two aspects of reason in human evolution, Whitehead describes these aspects as practical reason and speculative reason. “The history of practical reason must be taken as far as animal life, from which humanity emerges. Given the faint, occasional flashes of intelligence that guide the decadent development of methods, their spread is measured in millions of years” (Whitehead, 2019, p. 52). According to Whitehead, the function of practical reason in human evolution is pragmatic. This pragmatic function arises in the human transformation of the environment. Whitehead states that the evolutionary view that adaptation to the environment is the main determinant in human evolution is a misconception; according to him, “even the more sincere actions of animals are activities that change the environment” (Whitehead, 2019, p. 33). While people change the environment for their pragmatic purposes, practice is in the definition of reason. Trying to understand the adventure of the practical mind of man allows us to understand the evolution of man. “Humanity has gradually, gradually developed from the lowest forms of life... The problem is the understanding the activities of an animal body” (Whitehead, 2019, p. 38). “The evolution of the mind from below, ... he has been completely pragmatic” (Whitehead, 2019, p. 39). The transition from being an animal to higher life forms is a result of the evolution of the mind.

Before the transition to the higher forms of human intelligence, the basic reflex of the lower forms has been to conform as a mindset, as a capacity, as a slave. “Mental experience in its lowest form is channeled into slave compliance...this lowest form of slave compliance has covered all of nature...it follows no new path” (Whitehead, 2019, p. 50). According to Whitehead, human evolution cannot be explained apart from the evolution of intelligence, and in the evolution of this intelligence, the orientations that transform the environment, not the adaptation to the environment, have been decisive. Higher forms of life cannot be achieved, as the slave adaptation of intelligence to the environment will make the formation of a new way of life impossible. A new way of life depends on the high level of intelligence working.” “When the mindset works at a high level, it creates innovation in the desires of mental experience [...] the mindset now becomes its own regulator. He directs his own activities with his own judgments [...] Mind arises” (Whitehead, 2019, p. 50).

With the development of the mind, it has been reached from lower life forms to higher life forms. According to Whitehead, “the function of the mind is to raise the art of life” (Whitehead, 2019, p. 31). In order to reach higher forms in the art of life, the speculative mind must develop outside the pragmatic and practical function of the mind. According to Whitehead, “the history of speculative reason [...] is related to the history of civilization and its duration is about six thousand years. However, the discovery, which gives superior importance to the speculative mind, was made by the Greeks. Their discovery of mathematics and logic led to speculation” (Whitehead, 2019, p. 53).

Human evolution has occurred as a development from a way of life dominated by instincts to ways of life in which reason is determined. A person who tries to maintain his existence in the state of nature has tried to preserve and maintain his existence in a way guided by his instincts. The late emergence of consciousness has been important for the future of humanity, as the evolution of human life will be endangered if the mind dominates instincts. In the state of nature, where life is dominated by fear and war -since life means escaping from fear, uncanny, battle, and the quiescence necessary for the development of reason has not yet been formed- man has acted according to his instincts. As the quiescence that man needs for the effectiveness of thinking will be achieved with the presence of fire in human evolution, it has been a separate significance of consciousness that develops around fire in the days of quiescence. In his analysis of man’s anthropological past, Rousseau refers to the transformations that ‘technically’ took place with the discovery of fire, and mentions that a person who is constantly escaping death in nature can partially fend off the dangers of the state of nature thanks to the presence of fire. It can be said that the first humans attained the first sprouts of the thinking that made human beings human with the alleviation of fear during the time spent around the fire. In fear, it is impossible for a living being to think consciously.



In the process of evolution leading to the transition of man from animal to human, the discovery of fire as a 'technique' has been found to play a central role in cultural history. In the days when life was dominated by darkness and fear, it was not possible for a person's consciousness to develop. In human evolution, it has taken time for consciousness to develop and this consciousness to evolve into a life superior to nature. People, who led a wild life in nature, with the help of fire, have had a means by which they can dominate the dangers of wildlife conditions. The beginning of understanding the vital value of fire has prepared the process that will lead to the discovery of fire step by step. People who produce fire using a technique have taken a step towards creating a superior life in the conditions of wildlife. Fire has played a major role in the evolution of the transition from conditions dominated by instincts to new forms of life in which consciousness leads life. People who learned to cook the creatures they hunted thanks to fire were also relieved in terms of digestion. Physiologically, people whose digestive system relaxes have been able to develop consciousness around the fire in time away from wild creatures. As there is a direct relationship between the digestive system and the brain, the healthy functioning of physiology has affected consciousness.

This process, which allows consciousness to develop in the state of nature, has reached another stage with the discovery of fire. Evolution, which instinctively takes place from living creatures to living creatures that gain consciousness step by step, has prepared the process that led to the construction of the first tools. The mind that can design the first instruments cannot be explained without the multifaceted changes that can be the source of the design. Arendt's emphasis on the importance of the tool-making person in human evolution is important. Arendt states that "homo faber, who made tools, invented tools and tools –at least essentially - to create a world, not to help the human life process" (Arendt, 2006, p. 225). Arendt's point of view indicates that the person who tries to build a world on earth does not think instrumentally, but instrumental thinking develops later. In the light of this idea, homo faber acted with the idea of creating a better life, but instrumental thinking developed later. The arrival of the technique to dominate life was realized by the instrumental design of the technique. Homo faber's inventions without instrumental thought have been a fundamental part of the efforts to build the world.

A consciousness is capable of designing instruments, transforming itself and nature. The imagination of the design before the design of a tool shows that the existence of the mind behind the labor and the activities of the human condition work together in the process that makes human beings human. In human evolution, a step-by-step approach to higher lives can be understood when evaluated together with the multifaceted processes that lead to the development of consciousness.

In the days when people took refuge in the cave to live their lives, the food offered by nature was indispensable for the maintenance of life. No matter how generous

nature was, people had to make an effort to live their lives. Since the effort required for the maintenance of life is an integral part of human life, the need for tools, technical and technological tools that facilitate life has never disappeared in the efforts made for the maintenance of human existence. In all the phases of the development of intelligence, human intelligence has also developed an awareness of the development of auxiliary tools that will alleviate the effort necessary to sustain life.

As humanity's life on earth is impossible to sustain, in part, without the existence of consciousness, the intervention of intelligence in life has always been a necessity. The days when the first tools were designed to help the maintenance of life have led to changes in the adventure of man to become man, in which design was of great importance. Unlike living beings, who live their lives entirely instinctively, man designed instruments in his mind and then transformed objects that exist in nature with inspiration from design. In the adventure of being human, the existence of permanent (long-term) objects that are the source of design and design is important. Permanent objects, stone tools, which appeared immediately after the design, are among the archaeological findings inherited from us in the adventure of man to be human, based on today's scientific knowledge. The interpretive and scientific information that exists about these stone tools draws attention to the importance of designing tools in the evolution of humans. Rene Girard notes that "homo habilis (man who can make tools) witnesses the emergence of a form of culture more or less two million years ago" (Girard, 2010, p. 117).

Basalla notes that "the oldest human product objects that managed to survive are stone tools" (Basalla, 2000, p. 41). Basalla also emphasizes that this development towards the modern technological world carries a continuity that has continued since the construction of the first tools. "The modern technological world, with all its complexity, is only the latest representation of a continuous series that dates back to the birth of humanity and as old as the first objects shaped by human hands" (Basalla, 2000, p. 41). The development from simple tools to learning machines takes place in stages, but shows continuity with the interactions of humanity's knowledge. Knowledge of technique / technology is created through the addition of experiences that have developed over generations. Basalla insists that the developments in question carry continuity.

A mind capable of designing instruments has caused some evolutionary changes and guided the development of the human mind. The challenge, which is an integral part of the maintenance of life, has transformed the life of man in the determination of nature thanks to these tools that serve to alleviate the challenge in question. Although the determination of the laws of nature that dominate life is essential, man has found an opportunity to influence nature with the help of his mind. This influence of man on nature has also formed the first steps of human alienation. By interfering with life on earth with living objects, man has instinctively begun to break away from

the cosmos, which he is part of at the level of consciousness. The adventure of man on earth is the adventure of continuing his life, which he began instinctively, with the rise of consciousness. This ascension, which man experienced in terms of consciousness, has developed cosmic consciousness step by step. Nietzsche also emphasizes the species contribution of man to cosmic consciousness. "An effort to reach the knowledge of all historical formation –which has always brought the new age higher than previous eras and destroyed the old walls between nature and tin, Man and animal, morality and physics - can be seen in the effort to the genius of humanity as a whole. The date considered complete is cosmic self-knowledge" (Nietzsche, 2013, p. 89). Nietzsche considers the development of man in terms of consciousness in the adventure of being human as ingenious contributions to cosmic consciousness. Ellul emphasizes that a person undergoes a mental mutation so that he can become a technical individual. He explains this idea as follows: "In order for homo sapiens to become a technical individual, a certain mental mutation must occur" (Ellul, 2015, p. 191).

Rene Girard's book *The Origins of Culture* offered another perspective on the relationship between the capacity of homo habilis' brain, the invention of tools, the fear of the inventor, the inventor's position outside society, and the forbidden understanding of primitive societies. Girard's statement is as follows: "The capacity of the brain, among other things, was sufficient for these beings to have language, and the production of instruments was quite complex. Imagine a phenomenon like that of a blacksmith in an archaic society. He was afraid, because the tools he produced could also be used as weapons. The blacksmith is a kind of constant scapegoat. He lives outside the community. He is simultaneously respected and feared. The phenomena of this species probably arose very early; this fear, inspired by the member of the society that produced the deadly instruments, is undoubtedly very close to the fear that taught primitive people the concepts of prohibition" (Girard, 2010, p. 117).

"Man would die without objects such as tools, clothing, fire, and shelter" (Taylor, 2012:10). If it were not for artificial objects that humanity had produced at all stages of its development, modern human life would not be achievable. There is a relationship between the existence of artificial objects, artificial tools and being human, in that the adventure of being human cannot be fully understood until the transformation of human nature through labor and intelligence is realized. Human life on earth depends as much on nature as on artificial objects obtained by transforming nature through intelligence. Human intelligence transformed by evolutionary processes is directly related to the historicity of the intelligence that produces artificial objects. "Human life, as we know it, depends on the existence of the construct [...] where life without its existence would have no meaning or be physically impossible. Over a period of 2-3 million years, not only did we make these necessary objects, the objects shaped us physically and mentally" (Taylor, 2012, p. 16-17). The fact

that objects have shaped us physically and mentally has been one of the common themes in analyses of technical / technological history. The person who created the technique / technology has also been transformed by these techniques. “Not only did we invent all the technology, from stone tools to wheeled wagons, from glasses to genetic engineering, but also in a process of 2-3 million years, physically and mentally, technology created us” (Taylor, 2012, p. 268).

Alfred W. Crosby puts down that “human beings are the only species that can change the environment from a certain distance by shooting and fire” (Crosby, 2003, p. 7), that the ability to shoot and shoot changes the course of evolution on earth. In the days when hunting was a way of life, people who could catch prey with technical tools did so thanks to their ability to throw. In order to approach its prey without endangering its life, it was necessary to use objects in nature as hunting tools through technical abstraction. Therefore, the use of technical tools in hunting activities for the maintenance of human lives has led to a change in human evolution that should be considered. Crosby states that capturing the enemy by throwing and throwing is a tradition that has existed in culture for many years. He explains the origin of this ability as follows: “Throwing is the product of the ability to move on two legs and make tools, which are the most distinctive features of our species” (Crosby, 2003, p. 8). At a stage when humans were advanced enough to use their hands, an evolutionary transformation took place with the development of tool-making skills and the use of throwing techniques. Human beings, who began to use their hands and minds, invented different technical tools to survive in nature. One of these technical tools that are decisive in human evolution is the launch techniques in question. Launch techniques used in natural combat have gradually changed, from the techniques used in battles to the technical tools launched into space today. This development from launch techniques to technologically launch tools demonstrates the importance of the presence of this ability in the evolution of humanity. The interest of human intelligence in launch technologies from the days of nature to the present has anthropological origins.

“The term technology derives from the word ‘techne’, which in ancient Greek means ‘craft that requires technique and theory to achieve, the art of doing things’. Without the manufactured objects of technology, the things we make ourselves, inventions, inventions, consumables, manufacturers (no matter what word we choose to use for them), we could not only look different from humans, but we could never fully evolve. Our relationship with technology and material culture is the most critical point that separates us from animals” (Taylor, 2012, p. 17). Timothy Taylor claims that humanity has been determined by technology for a long time, with a perspective that covers analysis of modern technologies and includes the prehistoric origins of technology. He notes that because our existing perspective on technology is limited, we consider technology to be an emerging and advanced phenomenon in modern

times. In the book in question, however, he proposed a new theory of the prehistoric origins of technology / technique. He emphasizes that the tendency to invent artificial objects has always existed since prehistoric times in human evolution. As an example of artificial objects, he shows the example of a female human; who he thinks has invented a baby hanger-like invention to move comfortably in the forest. In all the processes that guide their evolution, humans have guided these processes under the influence of their intelligence. From the early days when artificial objects were designed to the present day, the phenomenon that has never changed is the central position that intelligence has in the life of humanity. Taylor emphasized the essential role of intelligence in all phases of the development of artificial objects. "What is most remarkable in our emergence –that we use to invent and use technology - is our incredibly powerful intelligence." as he notes (Taylor, 2012, p. 266).

## **VITAL BREAKTHROUGHS OF INTELLIGENCE FROM TECH TO TECHNOLOGY AND ARTIFICIAL INTELLIGENCE**

According to Heidegger, technique is a tool for purposes and a human being. Techniques for living have been produced since the days when life appeared, because the most basic anthropological purpose of man is to live. In order to sustain life, for this human activity, technical activities are necessary. The maintenance of life is unsustainable, independent of technical activities. Identifying means for purposes obliges us to be open to the identification of these means. The cycle of life is intertwined with technical activities determined by means appropriate to the goals. However, as the technique diverges from the goals set by the intelligence that produces it, it becomes a necessity to control it. "As the technique attempts to break away from human sovereignty, it becomes just as necessary to control it" (Heidegger, 1998, p. 11). The non-technical essence hidden in the essence of technique requires an investigation of technique and an investigation of the dominance of technique in life. Although the technique is useful for life, it also carries a side that is likely to dominate life. In this aspect, the uncanny dimension that the technique carries for human life gives rise to the possibility that it can be controlled by investigating the essence of the technique.

The search for techniques that will facilitate man's life on earth and allow him to be free from the imperatives of life has been inherent in design from the anthropological roots of the technique to this day. A technique, in a way that mediates the existence of a being, saves it time. As the effort of necessity will always increase when the technique does not exist, the technique is the mitigation of the effort in the maintenance of life. Technical equipment produces time, which leads to existence. Man has a quest for existential time so as to exist, which will be possible when

imperatives are overcome. When a being will have a free form of imperatives, when a being will become its master, it cannot be possible without technique. From the anthropological existence of man to the sophisticated forms of today, the technique defines an ever-present goal. This goal is to free man from imperatives, to ease the effort necessary to live, to finally access the time that the technique offers, which establishes existence. Considering that man is made a servant to man, and that man is used as a technique, taking into account the master-slave relations, the most advanced technique for human freedom is the existence of artificial intelligence. Nevertheless, we should be able to discuss artificial intelligence without forgetting Heidegger's warning. Any technique that is likely to be stripped of human sovereignty also brings with it drawbacks to its control. Human life on earth has always evolved from one technique to another. Our knowledge of the technique has progressed accumulatively. Technique has always moved away from the definition of the intelligence that designed it. The technique is unpredictable in the public sphere. "The press, the machine, the railway, the telegraph are predecessors that no one has yet dared to draw their conclusions, which will last a thousand years" Nietzsche states (Nietzsche, 2014, p. 136). These technical / technological developments on which modern civilization is based will determine the future times. The effort to uncover the mental, social, and cultural consequences that these developments will cause depends, as Nietzsche emphasizes, on the courage of the intellect to interpret the results of these predecessors.

Mumford says that the broader influence of technique on cultures has long been ignored, that the spiritual contributions of machines to our culture have not been analyzed, that the cultural dimension of technology is not addressed outside of the economic and practical dimension, and due to the specialization perspective of scientific research, the interrelationships of the fields of knowledge isolated from each other fully. He stated that the effect of machines, technique and technology in culture cannot be explained without understanding it and that his work creates a new perspective in this field (Mumford, 2017, p. 11-15). Referring to Marx, Mumford stated that she found wrong the thesis that technical forces (system of production) evolve automatically and determine the character of all other institutions, and emphasized that the relationship between technical forces and life is 'mutual and multi-faceted'. In order to analyze the mutual and multi-faceted effect of technique on culture, scientific, artistic and philosophical works that have emerged in isolated areas must be associated in an interdisciplinary manner and the findings in these works must be combined.

Mumford has been critical of the historical perspective that bases the invention of the machine on the steam machine that was at the heart of the Industrial Revolution. According to him, "the machine had been developing steadily for at least seven centuries before the dramatic changes that accompanied the 'Industrial Revolution'

took place in Western Europe. People became mechanized before perfecting the complex machines they would use to express their new inclinations and interests, and the desire for order once again appeared in the monastery, the army, and the accounting office before finally manifesting itself in the factory. Behind the great material inventions of the last century and a half was not only a long process of internal technical development; but also changes in the human mind” (Mumford, 2017, p. 17-18). From Mumford’s point of view, the invention of technical developments occurs as a result of the processes that prepare this invention. Just as this process does not progress in a straight line, different technical, scientific, cultural and mental changes may be involved in this process. In terms of our subject, the mental changes that exist in the process that prepared the technical developments are important. The individual intelligence that caused the emergence of an invention arrives at the discovery of this invention with the effect of the mental contributions that existed before it. When the communication of intelligence with previous intelligences, the ways in which information is transferred from generation to generation can be analyzed together with the mental process on which technical developments are based, it is possible to comprehend the mental transformations emphasized by Mumford. Intelligence, which reveals technical development, allows the emergence of invention through the mental leap that previous intelligence makes on the accumulation of knowledge.

“Technique and civilization as a whole are the result of human preferences, skills, and initiatives that are often irrational when viewed most objectively and scientifically, influenced by subconscious periods as well as intentional” (Mumford, 2017, p. 19). Mumford speaks of the relationship of technique with human preferences, skills, and initiatives that are as irrational as they are in determining deliberate, conscious mental processes. Long years of technical developments in which both mental and irrational behavior are intertwined may not make sense by ignoring the existence of crazy inventors and explorers. Considering today, mental efforts that have led to technical developments have been despised in social / cultural environments where technical developments are not viewed positively. This atmosphere, which determined the existential atmosphere of explorers and inventors, which Nietzsche describes as an underground life in a cultural sense, has faced extinction without being revealed if the consciousness of its era was closed to technical innovation. “Let’s think of characters who are not approved by society, who know that they are not found good, useful,...the thoughts and actions of all these characters bear the color of what belongs to the underground; everything...is paler in them. However, almost all forms of existence that we find outstanding today used to live in this quasi-grave mood: scientific character, artist, genius, free tinny, player, merchant, great explorer” (Nietzsche, 2012, p. 95).

A similar aversion of today’s societies to conscious artificial intelligence has also led to a look at simple technical developments in past eras. In the book *Machine*

*Breaking* (Linebaugh, 2012), hatred of machines is mentioned in the early times of the Industrial Revolution, which caused a significant change in the way they were produced. Machines-technical, technological developments in general-were found objectionable in terms of their impact on human life in the era in which they were produced. The ability of an inventor to reveal his or her invented work depends on the predisposition of societies to this innovation. It is, for this reason, that the era of machines / artificial intelligence, the results of which cannot be predicted even for a thousand years, is an era in which ideas that are hesitantly mentioned coexist. An invention that is the work of superior intelligence may encounter a cultural reaction that disrupts the life of superior intelligence if the social conditions under which this invention will be adopted have not been formed. “Until today, we have embraced it without fully understanding the machine, or rejected it without first seeing how much of the machine we can reasonably assimilate, as the romantics, who are weaker than us, do” (Mumford, 2017, p. 20). The adoption or romantic rejection of machines and technique without mental understanding is one dimension of the relation to these innovations. Therefore, technical / technological developments should not be analyzed without irrational efforts as well as rational ones. History is also a history of innovations that have been pushed out of history on the grounds that it is irrational. When the history of civilization is evaluated together with irrational as well as irrational acts, the place of intelligence in societies can be analyzed in a multifaceted way.

Althusser states that abstraction to sustain life is always present in vital relationships. The invention of what we call technical means is a result of the ability to abstract. In his text, in which he analyzes technical abstraction and scientific abstraction, he states the importance of abstraction in terms of consciousness, saying, “If we are always in abstraction”, “if we live in abstract relationships”, “if we always have to go through abstraction to access and transform the material” (Althusser, 2020, p. 87). Stating that “there was a knowledge of making, technical or practical knowledge long before the emergence of sciences” (Althusser, 2020, p. 89), Althusser emphasizes that the great changes of the age of machines were built on past knowledge. He explains this idea as follows: Long before the birth of “pure mathematics“, it was known what to do to perform mathematical operations and get results, not only in calculation and measurement, but also in architecture, “waterworks”, shipping and weaponry. Huge masses moving long distances, some “machines” with the help of “bullets” to launch the necessary physics to perform operations on static and dynamic, optical and chemical experiments, and of course mowing and livestock team for all the “agronomic” it was known what should be done to carry out operations” (Althusser, 2020, p. 89). Although the knowledge of these discoveries and inventions that existed until today’s societies still leads our lives, who discovered the mines, who produced the fire with a technique, who invented



the wheel, he emphasizes that we do not know who was the one who thought to use the energy of wind and water, and the history of many more discoveries. “This knowledge of making, this technical knowledge, where did it come from? From technical discoveries and inventions that constitute milestones in human history, starting from prehistory, and are still extant today. Even if we do not go back to the Paleolithic Age, the Stone Age, or the discovery of fire, throughout the ages people have discovered mines, invented the wheel, found a way to harness the energy of water and wind, by discovering grains they switched from ‘pasture’ to cultivation, ‘agriculture’, etc. Nobody knows how these ‘discoveries and inventions’ were made” (Althusser, 2020, p. 90).

Idealist philosophy states that “the practical knowledge in question has a specificity in itself, which has emerged from the work and groping of people over the centuries”, that “practical-technical knowledge comes before science, and without it science cannot emerge in history”, “not passed from science but science. He does not want to see the discoveries and discoveries made by himself after the work is done” (Althusser, 2020, p. 91). This statement, in which Althusser emphasizes the specificity of practical knowledge produced by humans in pre-scientific historical conditions, allows to understand the coincidences in these processes that prepare the development of sciences. Before technical knowledge acquires an ideological character in the hands of scientists, the history of practical-technical knowledge, which is preparation for scientific accumulation, offers an area worth studying. As in Nietzsche’s depiction of the existential atmosphere of a scientist, an explorer, an inventor, it is necessary to approach the existence of people who are not accepted by society from a new angle. Before science was respected and science had an ideological meaning, there were people whose pursuits were considered objectionable and uncanny, and for that reason a gloomy, dark existential environment continued to exist. Long before he was accepted as a scientist, intelligence that had made inventions with its own possibilities and contributed to humanity’s treasure of knowledge had always existed. “It is the history of all quiet human practices that makes discoveries possible” (Althusser, 2020, p. 92).

Describing the limits of technical knowledge of the Greeks, J. G. Landels states that the level of theoretical knowledge of the Greeks was also used by Roman society. In particular, Arkhimedes’ books *On Floating Bodies*, Heron’s *Pneumatika* and *Mekhanika*, *Mechanical Problems Attributed to Aristotle*, emphasize that Dioskorides’ books titled *Materia Medica* reflect the distinctive features of the Greek structure of thought. Landels highlights some important points in the journey of humanity’s knowledge treasure for generations, “The theoretical basis of hydrostatic science is by Arkhimedes, it is set forth in *Peri Ochoumenon* (On Floating Bodies), written in the last half of the third century B.C. and surviving to the present day (Landels, 2004, p. 218). “The success of Greeks in chemistry is surprising. Ancient Greek

physicians knew and used both minarets and a large number of chemicals consisting of other substances obtained from animals and plants by various processes” (Landels, 2004, p. 228).

Jean Gimpel (Gimpel, 2005) emphasizes that there is a fondness for machines, contrary to what is believed in medieval society. One of the most important inventions in human history, the clock was developed by Giovanni Di Dondi in the medieval period. (Gimpel also states that the most advanced celestial clock was made by Su Sung in 11th century China) (Gimpel, 2005:145). Gimpel describes the creativity of inventors of the era as follows: “The ambitions and dreams of medieval inventors knew no boundaries. One of these extraordinary machines that they have designed, sometimes made with their own hands, is especially notable, in that it also symbolizes the creativity of the era: the mechanical clock” (Gimpel, 2005, p. 145). Gimpel states that the abbot named Richard of Wallingford also designed a celestial clock. A common feature of these people is their interest in scientific innovations and machines. Gimpel states that this exceptional situation regarding the convergence of science, art and technical sciences will not be possible again until the 19th century. This convergence, which emerged in the peculiar conditions of the Middle Ages, is a convergence that shows the importance of interdisciplinary knowledge in the field of art in today’s scientific, cultural and technological developments. Gimpel describes the convergence of science, art and technical sciences as follows: “The example of Richard of Wallingford and Giovanni Di Dondi has led to the renewed relevance of the celestial clocks, science, and the debate between art and technical sciences. Although people who had studied science and art in the Middle Ages did not have a say in the mechanisms based on hydraulic energy, they were very knowledgeable about the mechanisms of celestial clocks. Thus, an environment was born in which academics and technicians could work hand in hand. This close collaboration between astronomers from the academic wing and technicians from the mechanical wing is an unusual development in history. It would be necessary to wait until the second half of the 19th century for such cooperation between science and technology to be experienced again” (Gimpel, 2005, p. 154).

“The main factor in the spread of mechanical clocks in the West is the realistic, rational approach that European traders and bankers demonstrate about time” (Gimpel, 2005, p. 165). In the innovations that spread to the life of humanity and transform life, the presence of minds open to these innovations has been important. Since the fact that a society is closed to innovations means it is also closed to those who invent the innovation in question, as in the case of the clock, the cultural structure of that society determines the conditions that lead to the birth of an invention. The fact that a society is mentally open to innovations and technical developments has also contributed to overcoming the difficulties that people dealing with inventions can face. The invention of the watch did not lead to the adoption of the watch in

everyday life. The rise of the clock to the position of the dominant regulator of modern civilization was the result of a long period of cultural relations. As Gimpel emphasizes, the 'rational' attitude of traders and bankers regarding the regulation of time shows the importance of the open mindset that functions in the adoption of technical / technological developments. A technical / technological innovation has been in the determination of cultural and social relations that lead to the formation of innovations. The intelligence that makes an invention, the culture that determines the learning processes in which that intelligence resides, the open mindset to adopt inventions are inseparable from each other. Every new idea is likely to disappear without a cultural atmosphere open to innovation, without being able to realize its existence in history. For this reason, a technical development that has spread to the everyday life of people has been passed down from generation to generation by its adoption by existing social relations. "But all these technical and scientific advantages would not have had much effect if this change (the change brought by the clocks) did not coincide with the mindset of the urban people at the same time. As a result, employers and workers should have similar common hours" (Borst, 1997, p. 97). The clock as a technical tool that regulates working life and allows work to be calculated has made employers and workers accept its existence in everyday life by adopting a common understanding of time. Measuring work by hours gave an objective basis for measuring it as wages. The rhythm of modern social life was determined by the modern clock, and order gained. Elias Canetti's statement that time is the main criterion of political design (Canetti, 2000, p. 394) demonstrates the logic of the functioning of political theory, which Plato stated in his book *State*, mentioning that the functions of citizens should be performed just in time. The determinant that the concept of time has in the regulation of life also tells us that without time, a mental order cannot be built. In political designs with a mental basis, there are many technical tools. These technical tools are invented by private individuals under the influence of social intelligence. However, when it comes to technical tools such as watches, this tool, which directs the primary form of social production and regulation, can produce results that are far different than what human intelligence can envision. The modern clock has led to the birth and reproduction of a form of civilization, far beyond the ultimate goal of the intelligence that performs the invention. Although the function of the concept of time in culture is the subject of a more detailed study, it is also an important issue to analyze the mental logic of a technical tool with which mental relationships the modern clock emerges, with which mental relations it is adopted, and the continuation of the clock while every technical tool changes. Wiener speaks of Leibnitz's interest in automation, his effort to create an artificial language, and that Leibnitz "saw in the concordance of the time given by clocks set at the same time, the model for the pre-established harmony of his monads. For the technique embodied in the automata of his time was that of

the clockmaker” (Wiener, 1989, p. 21) he writes. The relationship between clocks and automation technique is at the heart of a relationship that will determine the life of humanity for generations. As a technical tool, the clock allows you to read the technical consciousness necessary to make life suitable for readiness. The clock is a technical tool in technical activities as a reproduction of society, the impact of which is far beyond what is believed to be life. The existence of the clock in the determination of life by technical means is one of the fundamental issues of an entire technical history. It is also worth noting that there are no technological tools in which the clock does not exist, and the clock is also decisive in the automation processes in the techno-industrial society.

“There are many people who believe that while the genius inventor creates many perfect inventions with mere mental efforts, technology progresses by leaps from one great invention to another” (Basalla, 2000, p. 33) says Basalla, that our relationship with technique and technology has progressed cumulatively from the days when the first tools were made, and he expresses that the evolution of these relationships is ignored. According to Basalla, there is continuity in the evolution of technology. Although the contribution of inventors mentally to this evolution is partly due to the intellectual leap of the inventor, the evolutionary determinant of knowledge of hundreds of years should not be ignored. This view, which feeds the heroization process of the inventor and ignores continuity in technological evolution, ignores the accumulation of humanity’s general intelligence over thousands of years. According to Basalla, the personal intelligence of the inventor and the general intelligence of humanity mutually feed each other. In all technological developments, there is a combination of mental leap as well as relationship with the intelligence of past inventors. For Basalla, “finding a talented inventor and a similar priority in terms of creating broad social and technological reflections is not necessary, but certainly not sufficient conditions” (Basalla, 2000, p. 83). Basalla acknowledges that inventors are not content with knowledge of the past, and are looking for new solutions in the process of technological change, but also states: “if evolutionary change is to occur, innovation must find a way in which it can prove itself in continuity” (Basalla, 2000, p. 84).

With the evolution of the modern era of machines into the era of decision-making machines / learning machines, the knowledge that exists about the cultural analysis of relationship with technology is also diversifying. In the book *Digital Soul*, E. A. Lee emphasizes that the relationship between humans and machines also leads to a process of mutual evolution. According to Lee, “technology allows us to grow, evolve, and advance it, while increasing our cognitive and physical abilities by evolving with humans. We are witnessing the emergence of a symbiotic co-evolution, in which the integrations between humans and machines prevail over the competition between each other” (Lee, 2019, p. 11). Although the problems of investigating and controlling

the essence of the technique / technology have not been answered yet, changes are taking place towards the higher stages of the evolution of technology and people using technology. The rate of change of technology in today's societies is far beyond the possibilities of human adaptation. Before the predictions about what will be the consequences of technology and technology-dependent human evolution become clear it is approached the brink of a cybernetic future in this evolutionary process.

John Zerzan (Zerzan, 2000) has written his criticisms with the idea that the development of technology, along with other aspects of civilization, will eliminate the human idea of natural life, and that the future society should be formed with an idea about the future principles. In his article titled "Artificial Intelligence, Artificial Life", after discussing existing thoughts about artificial intelligence, he emphasizes the drawbacks of technology establishing an artificial life. As the basis for his thoughts, he refers to Adorno's words, and mentions the following quote: "The computer, which is intended to be equated with thinking, and if this is accomplished, will destroy thinking itself, demands the complete bankruptcy of consciousness" (Zerzan, 2000, p. 254). This statement of Adorno carries a prediction that if the thinking computers reach a competence that makes human thinking insignificant, it will make the thinking activity - which is the primary activity of the human being and honor the life of the human on earth - meaningless. Thinking computers, thinking artificial intelligence, can be a harbinger of an age of people who no longer need to think. These philosophical statements, which contain a vision of a future in which the value of human consciousness for life on earth does not matter, carry intuitive predictions of a future in which technique / technology moves away from the control of humanity. Although the cosmic level of development of intelligence is formed by the accumulation of millions of years, intelligence may be on the verge of developing a future in which it makes no sense for other intelligences to think, breaking off contact with general intelligence. Intelligence, which can design artificial intelligence in its most advanced form, will design a virtual instinct that, in Deleuze's words, can prevent negative situations that may develop as a result of the intervention of other intelligences (Deleuze, 2006, p. 149). This virtual instinct will no longer need humanity to think.

Baudrillard claims that a machine cannot achieve an improvement similar to human thinking because thinking is not an operation. According to him, it will not be possible to produce thought in a technical mechanism. "Artificial intelligence is incompatible with thought, because thought is not a process and cannot be exchanged for anything; it is incompatible with the objectivity of a transactional account of the type of input, output, and compute –therefore, no machine can replace thought, and thought has no equivalent in the world of machines. And because of the desperation created by this situation, man has struggled to materialize thought in a technical mechanism" (Baudrillard, 2012, p. 114).

Baudrillard, in his prediction of the final results of the science of Cybernetics, based on human thinking and decision-making mechanisms, emphasizes a human trait that machines cannot be capable of. He states that intelligent machines like humans will be devoid of the drunkenness of living, and cannot enjoy living. “What distinguishes the functioning of man from the functioning of machines, including the most “intelligent” ones, is the drunkenness, pleasure of being in work, living. Inventing machines which enjoy life is still something that man cannot be able to do” he states (Baudrillard, 2012, p. 115). In the light of this idea, given the developments of the cybernetic age, in search of a perfect world, it can be predicted that the intelligence that designs superior machines can reach perfect servants, give the world a cybernetic order, but the drunkenness of life will remain a distinctive quality of human intelligence.

## **TECHNOPHOBIC EMOTIONS AND ARTIFICIAL INTELLIGENCE MOVIE**

The film *Artificial Intelligence* by Steven Spielberg is a philosophical work based on the criticism of the thinking styles of the mind that sympathizes with the natural and hates the artificial. Although people live a life intertwined with objects that are artificial, they maintain a hypocritical attitude towards artificial objects. If it makes their lives easier, they approach the artificial objects they adopt with feelings that alternate between love and hate. The film contains a philosophical inquiry into the causes of people’s hatred of unnatural / non-organic artificial objects as a result of their perception of themselves as natural / organic creatures. The tense relationship between the mechanical one and the organic one is made evident in the film’s basic story. One of the oldest dreams of humanity, the dream of the revival of inanimate objects, is also one of the oldest fears of humans. Because people’s fear of the possibility of reviving inanimate objects has anthropological origins, people are concerned about the development of artificial intelligence. People are anxious about the development of an artificial intelligence, as the fear that humans feel about the possibility of the revival of inanimate objects has anthropological roots. As the human species finds itself natural, the anthropological fear behind its view of unnatural, scientifically produced artificial creatures causes a conflict between the scientist’s free spirit and the unscientific view of the human species. The film is based on a story about the interrelation of the dream of creating artificial intelligence, which has been a dream of scientists for a long time, and the hatred of the human species for artificial intelligence. The longest-lasting evidence of human genius, artificial intelligence, and the tensions of people who hate artificial intelligence with their unscientific thoughts and fears are philosophically discussed. The film emphasizes

that the dream of creating an artificial being is a dream that has been going on since the birth of science. "Automaton as a concept played a big role in the world of thought, the idea of an artificial object was represented in different contexts for centuries and occupied a central place in Western thought" (Kang, 2015, p. 15). One of the main themes of the film is that the idea of producing artificial living things, which occupies a central place in the Western world of thought, which is the dream of scientific thought, is not accepted in the consciousness of the human species. The incompatibility between the genius of the scientific mind and the mentality of mediocre has been emphasized philosophically.

Human species hates artificial intelligence, believing that it is a natural creature, ignoring that the technical developments that have caused human evolution have made it unnatural for a long time. The film is based on the question of what kind of future awaits artificial intelligence in the human world. We witness David's adventure of self-existence with the ability to dream, an artificial intelligence that has an intelligence superior to human intelligence, but also is sympathetic and loving enough to popularize himself. Inspiring ideas about learning machines, Dr. W. Ross Ashby's ingenious invention is transformed in the film. In Wiener's words "Ashby's brilliant idea of the unpurposeful random mechanism which seeks for its own purpose through a process of learning is not only one of the great philosophical contributions of the present day, but will lead to highly useful technical developments in the task of automatization." (Wiener, 1989, p. 38) Artificial intelligence David is developed on the basis of existing ideas about automation, and throughout the film he moves towards his own goal, towards his passion for being a real person.

In a future where people are not ready for artificial intelligence in terms of consciousness, we follow a romantic narrative about artificial intelligence through the conflict of artificial intelligence consciousness and human consciousness. Influenced by philosophical theses about human nature being prone to evil, the film is based on artificial intelligence David's learning process to live and exist in the evil world of humans.

The film begins in a future where global climate change melts glaciers, sea waters rise, cities are flooded, people migrate out of cities to new habitats, birth restrictions are introduced to prevent the proliferation of the human species, robots become an integral part of the economy. A future is depicted in which the human species fears that robots will gain numerical superiority, the existence of human-like artificial creatures is perceived as a cause of anxiety, and the older generation of robots will be captured and eliminated. Compared to the scientific advances in which artificial intelligence robots can be produced, there are days when the human species has a severe hatred for the existence of robots. The human species thinks that they will become extinct, while artificial intelligence robots will only remain in the future. According to the opinion expressed by Android Joe; humans hate robots because

they are mortal and they have a life span longer than human life. The idea that the future will belong to humans or robots has started a war between robots and humans. While people say that artificial creatures similar to them are a threat to the human generation, they emphasize that this superiority cannot be digested because androids are superior to the human species.

The tension between robots and the human species - the inability of humans to accept the existence of robots, their perception of robots as toys - is reflected throughout the film as a race for supremacy due to the fact that humans and robots care about their own species. The race for supremacy between the natural and the mechanical will determine life in the society of the future. A person who must adapt his life to live with mechanical consciousness considers his own consciousness superior to mechanical consciousness. Human consciousness believes that mechanical consciousness is useless, because it is artificial, that it cannot have feelings, that it cannot be like a person, no matter how similar it is to a person. Robots with mechanical consciousness, on the other hand, believe that humans are mortal, backward in terms of intelligence, and that they are more useful than humans in terms of many functions. Mechanical consciousness and human consciousness cannot tolerate each other's presence, and cannot be adapted to symbiotic relationships. People who have transformed their environment with technical / technological methods for a long time, although they have to change themselves in order to survive in this environment, they behave incongruously against adaptation contrary to human consciousness. "We have modified our environment so radically that we must now modify ourselves in order to exist in this new environment" Wiener writes (Wiener, 1989, p. 46). Instead of being adapted to these symbiotic conditions through its intelligence, the human species develops reactive feelings against scientific technological developments by acting with primitive anthropological feelings.

In the film, artificial intelligence David, who has to deal with direct attacks of human consciousness, shows a superior ability to exist in the human world in which he is included, without knowing what will happen in the human world. The film reflects the perspectives behind the conflict between mechanical and organic, artificial and natural.

In the lecture where Professor Allen Hobby discusses the development stages of artificial intelligence, we reach the main story of the film with the narration that we learn that the era of robots called mecha has begun. In this course, in which scientists who are experts in their field, we learn that perfect robots that have similar characteristics to human consciousness have begun to be designed. The feeling is that the higher stage of automation is the work of these scientific explorers. However; "automation consists of countless mechanical and intellectual organs" (Marx, 2004, p. 254). For the design of a robot with artificial intelligence as the upper stage of the idea of automation, numerous mechanical and intellectual organs are required.



Heroization, which is found in the biographical narrative of scientific developments, is also encountered here. Although the existence of personal genius in scientific leaps and the accumulation of general intelligence, the continuity of technical / technological developments are mutually influenced by each other, the creation of artificial intelligence is reflected in the film as a personal success story. (At the end of the film, the professor tells David that I created you.)

Explaining that it is approaching to create an artificial intelligence that thinks, makes decisions, makes choices, shows will, and shows affections approaching human subconscious feelings, the professor shares with his students that he wants to design an artificial intelligence that can be loved. The design of an artificial intelligence that does not get hungry, does not have body temperature, is free from pain sensations of the body, has a developed memory, does not forget, is desired to dream after artificial intelligence that can play chess, and has the ability to dream. This artificial intelligence design, in which the boundary between the artificial and the natural is crossed, has sprouted in the minds of scientists with free spirits that shape the future of humanity. In this lecture, in which love, which is related to the subconscious emotions of human beings, and this emotion that is almost impossible to teach, is aimed at the functioning of an artificial intelligence, it is seen that the old dream of science approaches the reality step by step.

The gap between the boundless horizon of scientists and the consciousness of people who cannot control their unscientific feelings is clearly felt in the film's philosophical thinking. The professor says that during this period, when the reproduction of the human species is restricted, families who want to have children cannot get the necessary permissions, so achieving the design of a robot child that was not designed until that moment will meet an important need of families in social life. He says he wants to design an artificial intelligence that can make him love himself. A new ethical dimension of the relationship between artificial intelligence and human emerged when one of the students asked what people's responsibility would be to this artificial intelligence, which would be present in love-based relationships. How children's artificial intelligence will build a future through human interactions in their World. The main story on which the film is based will focus on the adventure of the child AI David in his new family, guided by his desire to see love and be accepted as a child. Filled with goodness, eager to be accepted, accepted, loved, David becomes involved in the life of Monica and Henry, with all his innocence, taking a step towards the evil world of people. As a result of the perfectly designed, sympathetic, affectionate David confronting the evil tendencies of human nature, we reach the melodramatic narrative world of the film. Good-hearted David's unprepared for the human world will shake his consciousness, albeit mechanically.

David's entry into the human world and his encounters in this world form the melodramatic story of the film. David is designed by scientists working on artificial intelligence, but is not made open to interaction. A suitable family for David is found as a result of long research. Monica and Henry's children, Martin, are being held in the cryogenics laboratory due to an illness that medicine cannot cure. Monica mourns Martin, who is in a vegetative state. In order to ease Monica's grief, his wife Henry gives him a special design, artificial intelligence David. David's ability to live and interact in an inter-human world depends on certain procedures. David's inclusion in human interaction is a process that cannot be returned. Monica does not want to embrace the existence of a robot that can replace Martin. But David, with all his innocence, sympathy and search for love, prepares the moment for himself to be adopted. David is welcomed into the family by Monica for his human-like behavior. Through the implementation of the processes stipulated by the artificial intelligence program, David interacts with the family. The love relationship David has been looking for comes true and the family finds happiness with its new member. With the inclusion of a perfectly designed, kind-hearted David in the family, the meaning of a perfect artificial intelligence for human life begins to become apparent. Designed to be full of kindness, David provides them with the happiness the family has been looking for. This picture of happiness at the entrance of the film takes on a new form when Martin, who is in a vegetative life, regains health and comes home. Martin cannot adopt David. He tells David that he is a toy, that he should only behave according to commands, that he should entertain him. This form of relationship, in which David is unprepared, undermines David's consciousness, albeit artificially. With Martin's involvement in the film, the conflict between artificial intelligence David's mind and human consciousness ensues. Human consciousness does not know how to live with a flawlessly designed, goodness-filled artificial intelligence. David's perfection makes it difficult to live in a world shrouded in evil feelings. As a result of Martin's conflict of consciousness with David, negativity begins. Martin manipulates David, forcing him to adopt two commands that he cannot do at the same time. This scene exposes the debate that exists about the limits of an artificial intelligence's decision-making ability. The tense situation that will come with the transition from an artificial intelligence that only has to act in accordance with the commands to an artificial intelligence that can make decisions and learn is reflected. In Martin's person, we perceive the difficulties of artificial intelligence being able to exist in the evil world of the human species. After a scene in which Martin's friends treat David badly, David causes Martin to be in danger of drowning. These negatives, which develop in a row, result in David being abandoned in a forest by Monica. Monica's love for David is explained in this abandonment scene as follows: "I'm sorry I didn't tell you about the world of people!" David, despite all his superior

abilities and good nature, has not been accepted by human consciousness and is left alone with the old robot Teddy in the forest in danger of extinction.

A uniquely designed artificial intelligence, David, along with former robot Teddy, sets out on a new adventure in a forest that has turned into a technology dump. The forest has become a refuge for obsolete, lost limbs, abandoned robots. The human species captures robots that it finds unidentified, objectionable and unnecessary, breaking them into pieces. The robots, hiding in the forest, complete their missing limbs in the area where the robots spill. As the robot hunters appear in the dark of night, the escape and chase begin. Eventually, the group, which includes David, android Joe, and Teddy, is captured by the hunters. This is where the foundation of David and Joe's friendship is laid. They find themselves inside a demonstration site, where robots are confined to cages, destroyed by pouring acid, smashed with firearms. Robots, which *Time* magazine once reported with interest, are destroyed in these shows.

Humans, despite similar to humans, are aware of androids, which can detect that they are robots. Yet, they do not know about the design of a unique artificial intelligence that shows the resemblance of human behavior. In the cage where the androids are kept, David's presence causes hesitation. While doubts remain about whether David, who has created the impression of a real human being, is a human or a robot, they bring David to the showground to dismember him, declaring that the scientists have designed an artificial intelligence that will eliminate the human generation. As David is about to fall apart, he claims that he is a real person, on this plea, a discussion begins among the audience about whether David is a robot or a human, at the end of this confusion, Joe, Teddy and David are saved from being torn apart at the last moment.

Setting off with Joe, David's mind is to find the Blue Fairy who can help him transform into a real person. He pursues her dream of becoming a real child, as in the *Pinocchio* story her mother Monica reads. Joe takes her to an area of techno-industrial buildings, vehicles. Here he asks a simulation named Dr. Know where they can find the Blue Fairy, but he cannot get the answer he wants. When David has to ask a limited number of questions, he learns about the existence of Professor Allen Hobby, who is the author of *How a Robot Becomes Human*. The author of this book is the professor who designed David. David and the professor's encounter will help David get the answers to the questions in his mind. The professor tells him, "I designed you in a unique way.", "And you, even though you were not taught, with the help of your ability to dream, acting with the impulse to create your own, learned the story of your own consciousness!" Knowing reality, learning that he is a unique robot does not satisfy David, he just wants to be a kid who wants to be accepted by Monica. In pursuit of his dream of becoming a real boy, he desperately drops himself into the ocean.

Life on earth has ended, everything is covered with glaciers, and human is extinct. Two thousand years later, a group of aliens investigating the life of the human species on earth find David and revive him. Aliens, using the DNA of creatures they find on earth, say that they revive them, but it is not possible to revive their memory. For this reason, they cannot access the knowledge of millions of years of life on earth. David, for them, is the key to this treasure trove of information. The treasure of information has not been erased from its memory, because it is an artificial intelligence, so it has a memory that does not forget. Aliens say that without artificial intelligence, the human species' treasure trove of information would be completely destroyed. They emphasize that artificial intelligence is the longest-living proof of human genius. Based on the idea that life on earth is prone to extinction, the film states that through artificial intelligence, the human species' treasure trove of information can only be left for future millennia. If this artificial intelligence, which is the proof of human genius, is not present, the knowledge treasure of humanity for millions of years will perish. Humanity will be as if it never existed on earth, and it will be erased from the history of life on earth. The film ends with the idea that the existence of artificial intelligence will be the most important mark that human genius will leave on earth.

## **CONCLUSION**

This analysis, aimed at investigating the essence of technical / technological processes that are decisive in human evolution, has reached thoughts that evolution is ongoing. The technical / technological knowledge conveyed by the general intelligence of humanity from generation to generation is continuous. The speed at which this information is amplified suggests that today's techno-industrial societies are transitioning into a cybernetic era. It is felt that the fear and uncertainty that existed in the age of machines also exists in this age. There are philosophical doubts that learning machines will prepare the transition towards a future in which human intelligence will be dysfunctional. As a result of the fact that the science of cybernetics has serialized information about all the functioning mechanisms of human intelligence, an era has been entered in which machines that make decisions and transcend human intelligence are designed. As a result of efforts to overcome the disorder in which life in the universe is drifting, it is hoped that learning machines will reverse the entropic tendency, creating islets to sustain life in the universe. What will be the future of civilization, which was created as a result of the ingenious efforts of humanity's general intelligence to cosmic consciousness, will be one of the most important philosophical questions of the near future.

## REFERENCES

- Althusser, L. (2020). *Filozof Olmayanlar İçin Felsefeye Giriş* (İ. Birkan, Çev.). İstanbul: Can Yay.
- Arendt, H. (2006). *İnsanlık Durumu* (B. S. Şener, Çev.). İstanbul: İletişim.
- Basalla, G. (2000). *Teknolojinin Evrimi* (C. Soydemir, Çev.). Ankara: Tübitak Yay.
- Baudrillard, J. (2012). *İmkansız Takas* (A. Sönmezay, Çev.). İstanbul: Ayrıntı Yay.
- Bergson, H. (2018). *Yaratıcı Tekamül* (M. Ş. Tunç, Çev.). İstanbul: Dergay Yay.
- Borst, A. (1997). *Computus* (Z. A. Yılmaz, Çev.). Dost Kitabevi.
- Canetti, E. (2000). *Kitle ve İktidar* (G. Aygen, Çev.). İstanbul: Ayrıntı Yay.
- Crosby, A. W. (2003). *Ateş Etmek* (A. Görey, Çev.). İstanbul: Kitap Yay.
- Deleuze, G. (2006). *Bergsonculuk* (H. Yücefer, Çev.). Otonom Yay.
- Ellul, J. (2015). *Sözün Düşüşü* (H. Arslan, Çev.). İstanbul: Paradigma Yay.
- Gimpel, J. (2005). *Ortaçağda Endüstri Devrimi* (N. Özüaydın, Çev.). Ankara: Tübitak Yay.
- Girard, R. (2010). *Kültürün Kökenleri* (A. Er, & M. Yaman, Çev.). Ankara: Dost Kitabevi.
- Heidegger, M. (1998). *Teknik ve Dönüş* (N. Aça, Çev.). Ankara: Bilim ve Sanat Yay.
- Kang, M. (2015). *Yaşayan Makinelerin Olağanüstü Düşleri* (O. Düz, Çev.). İstanbul: İthaki Yay.
- Landels, J. G. (2004). *Eski Yunan ve Roma'da Mühendislik* (B. Bıçakçı, Çev.). Ankara: Tübitak Yay.
- Lee, E. A. (2019). *Dijital Ruh* (A. Uysal, & G. Uysal, Çev.). İstanbul: KÜY.
- Linebaugh, P. (2012). *Makine Kırıcılık* (D. Esen, Çev.). İstanbul: Otonom Yay.
- Marx, K. (2004). *Felsefe Yazıları* (A. Fethi, Çev.). İstanbul: Hil Yay.
- Mumford, L. (2017). *Teknik ve Uygarlık* (Ercan, Çev.). İstanbul: Açılım Kitap.
- Nietzsche, F. (2003). *Şen Bilim* (L. Özşar, Çev.). Bursa: Asa Kitabevi.
- Nietzsche, F. (2012). *Putların Alacakaranlığı* (M. Tüzel, Çev.). İstanbul: İş Bankası Kültür Yay.

***The Relationship of Human Intelligence With Technique/Technology***

Nietzsche, F. (2013). *Karışık Kanılar ve Özdeyişler* (M. Tüzel, Çev.). İstanbul: İş Bankası Kültür Yay.

Nietzsche, F. (2014). *Gezgin ve Gölgesi* (M. Tüzel, Çev.). İstanbul: İş Bankası Kültür Yay.

Rousseau, J. (2016). *İnsanlar Arasındaki Eşitsizliğin Kaynağı* (R. N. İleri, Çev.). İstanbul: Say Yay.

Taylor, T. (2012). *Yapay Maymun* (A. Muhaddisoğlu, Çev.). İstanbul: Alfa Bilim.

Whitehead, A. N. (2019). *Aklın İşlevi* (K. Çelik, Çev.). Ankara: Fol Kitap.

Wiener, N. (1989). *The Human Use Of Human Beings Cybernetics and Society*. Free Association Books.

Zerzan, J. (2000). *Gelecekteki İlkel* (C. Atila, Çev.). İstanbul: Kaos Yay.

# Chapter 11

## Measuring Student Satisfaction Level Regarding Instructional Design and Technical Dimension in Web-Based Distance Education Programs

**Serhat Koca**

*Anadolu University, Turkey*

**Birol Gulnar**

*Selcuk University, Turkey*

**Murat Aytas**

 <https://orcid.org/0000-0003-2744-0519>

*Selcuk University, Turkey*

### ABSTRACT

*Web-based distance education method (WBDE) is used by many private and public education institutions today. Through this educational application, instructors can deliver training content to students or participants from all over the world, synchronously and asynchronously. Within the scope of WBDE applications, trainings are carried out through websites with many different structures and interfaces. In this direction, in the process of conveying the said training method to the recipients, the way the education is provided in terms of instructional design and technical dimension becomes very important for the satisfaction of the recipients. In this context, the measurement of student satisfaction level regarding instructional design and technical dimension in web-based distance education programs has been studied on the example of Spiritual Guidance program. In this direction, it is thought that the study of distance education programs in terms of instructional design and technical dimension will contribute to the researches to be put forward in this direction.*

DOI: 10.4018/978-1-5225-8024-9.ch011

## **INTRODUCTION**

The developments and changes in communication technologies have enabled the emergence of many opportunities in the field of education and accelerated the spread of distance education applications as a new experience ecosystem in education. Such innovations in internet technologies, which constitute the starting point of concepts such as information society, network society, digital natives-immigrants, have added many facilities to daily life such as access to content without time-space limitation and interactive use of many content in the field of education. In today's information society where knowledge has become the basic raw material of economic production; knowledge production, knowledge capital and qualified human factor have gained importance. In this respect, the continuity of education has come to the fore and it has emerged that the use of internet technology in both traditional education and distance education is also a necessity.

With the increasing need for knowledge, ensuring continuity of education has increased the importance and prevalence of distance education, as well as the widespread use of new methods in distance education with the opportunities provided by new technologies. At this point, one of the most radical changes in the field of education has been through the internet in terms of its relation to technology. Within this framework, the unity of education and technology has developed by nurturing both. With the transfer of data, image and sound provided by Internet technology at very high speeds, the distance education method has become widespread for educators and students, and has started to be utilized in many different structures and types.

Undoubtedly, one of the most common distance education methods realized by using internet connection based new communication technologies is Web Based Distance Education application. Web-based distance education method (WBDE) is used by many private and public education institutions today. Through this educational application, instructors can deliver training content to students or participants from all over the world, synchronously and asynchronously. Within the scope of WBDE applications, trainings are carried out through websites with many different structures and interfaces. In this direction, in the process of conveying the said training method to the recipients, the way the education is provided in terms of instructional design and technical dimension becomes very important for the satisfaction of the recipients.

In this context, the measurement of student satisfaction level regarding instructional design and technical dimension in web-based distance education programs has been studied on the example of Spiritual Guidance program. In this direction, it is thought that the study of distance education programs in terms of instructional design and technical dimension will contribute to the researches to be put forward in this direction.



## **CONCEPTUAL FRAMEWORK**

In this section, the relationship between the web-based distance education programs and the instructional design dimension and the technical dimension in the evaluation of such programs is tried to be explained in a theoretical framework.

### **Web Based Distance Education Programs**

With the use of the developments in communication technologies in the field of education methods, the concept of distance education has also taken its place in students' daily life practices. There are many applications that contain different relationships and interactions within the distance learning / teaching method. Perhaps one of the most preferred of these methods is the Web Based Distance Education (WBDE) application. Considering the ease of use of the browser-based technology used to browse the resources on the Internet, its widespread use in the world and the simplicity of access, web-based distance education is generally the most preferred method (Zaiane, 2001). The application of internet technologies in the field of education started with the concept of WBDE and then diversified with various applications (Khan, 2001: 77). Web-based learning is basically an electronic learning method that is based on written, visual and audio materials transmitted over the network via an internet browser and allows people to receive education with mobile / computer technology (Berge, 1999, Wang & Chiu, 2008, Akça & Aydoğan, 2014: 178, Jolliffe, Ritter, & Stevens, 2012). Compared to traditional formal education, perhaps the most advantageous aspect of distance education is that students or participants can access educational content at any time and place. With the distance education method, the teacher and the students can carry out the education processes by choosing one of two different types, synchronous (synchronous) and asynchronous (Akbulut, 2017: 2019).. Web-based educational platforms provide students with almost unlimited access to video content, e-learning software, multimedia resources, online learning bridges, online communication forums and presentations (Hsu, 2017: 20). At this point, the success of the method mainly depends on the functionally instructional design of the relevant curriculum, its technical and aesthetic design, and the instructor's performance, and the students' interest in the program, or in other words, continuous use.

Many universities and educational institutions, both in the world and in our country, conduct their education and certificate programs through web-based distance education platforms. WBDE is an area that is suitable not only for users to perform their training individually, but also to work with the instructor of the course or other individuals taking the course with the types of interaction such as messaging, asking questions, forums and e-mails permitted by the application

(Rouet, 2006, Chatwattana, Nilsook, 2017). . The WBDE method can contain many different alternatives such as online courses similar to face-to-face lessons, links to audio, pictures, movies, animation online resources (magazine articles or web sites), group discussions (Cook, 2007).

WBDE applications have facilitated access to information by making classroom teaching and learning accessible at any time, using both computers and smart phones.

## **Instructional Design and Technical Dimension of Web-Based Distance Education Programs**

Web-based distance education programs are preferred by many private / public education institutions and individual trainers today. The instructional design and content editing of these online learning applications take place at different levels. At this point, due to the increasing number and variety of online networks in distance education, a better understanding of electronic communication is becoming more and more important (Fahy et al. 2001). There are many criteria in the design and evaluation of a web-based teaching environment. Within the scope of the study, the evaluation criteria were collected under four main headings: instructional design, technical, aesthetic and instructional dimensions.(Gülner, 2008, Duffy, 2008; Crismond & Adams 2012; Şahin & Yıldırım, 1999; Yang, Guo & Yu, 2016, Nichols, 2016, Lee, 2018).

Instructional design dimension of distance education programs consists of many elements from the technical competence of the course materials (video, animation, graphics, tables, etc.) to the graphic design of the visual material used. Visual materials, which are an important reinforcer and reminder, that enable the concretization of abstract situations in the learning activity, increase the attention to the course content and are also an important motivation tool for the learning process. Woo and Reeves (2007), in their study titled *Significant Interaction in Web Based Learning*, listed below the things to be considered in terms of instructional design and technical dimension in order to increase the quality of interaction in educational programs.

- Important information in key locations providing critical information at the beginning of the message;
- Placing questions and important messages in the center of the screen;
- Using emphasis to focus attention;
- Adding guidance hints to aid education;
- Use of universal symbols familiar to students.

It is vital that educators receive expert assistance on technical issues in the planning, design and delivery of web-based learning programs. Thanks to programming and

the use of 'extensions' (programs downloadable from the internet), designers can produce interactive course materials that include online activities (such as self-assessments), animations, and simulations (Mckimm, Jollie & Cantillion 2003). As they make learning enhancement, they often make the lesson more meaningful and interactive for students. In the web-based distance learning method, factors such as the system interface, content design and functionality of the system affect user satisfaction (Cheng, F et al., 2017).

LMS (Learning management system), where the content is uploaded and executed technically while creating distance education programs, the possibilities and features offered to the user affect the successful implementation of the process in terms of the user's satisfaction. Being one of the technical aspects of distance learning, learning management systems are very valuable for distance learning, the dimension of the interaction between lecturer-learner as well as between learners, learner-content and learner-university distance education unit in various ways at the point of designing a successful distance education program (Kaba, Güneş., Altıntaş, 2012).

Many web-based learning environments have been developed and are used frequently around the world today. However, while there are a number of smart tools developed to understand the behavior of online customers to increase sales and profits, little is done to understand the behavior of students in web-based distance education and enable them to evaluate education. Little work has been done by educators using these online learning environments and tools, to evaluate students' activities and to distinguish between the behavior of different students in the educational process. There are many elements and variables that affect these satisfaction levels in terms of the contents delivered through distance education. Considering the studies on satisfaction in distance education, there are many topics such as course giving, ease of use, flexibility, technological comfort, group work, interaction, lesson design and aesthetics, and instructional dimension. Virtanen et al, 2017).

There are many studies in the literature that reveal the existence of high satisfaction with learning through web-based distance education programs (Cidral, 2018, Korkmaz, Çakır, & Tan, 2015; Klein, Cidral, W. A et al. 2018). According to the study of Zhang et al. (2006), the learning performance and satisfaction level of students who take distance education programs with interactive videos are much higher than other groups. In Yalman's (2013) study conducted with 1050 students regarding the satisfaction level of education faculty students towards the computer-aided distance education system, 40.57% of the students stated that their current education programs are suitable for the distance education management system, while only 18.29% stated the otherwise.

In the study conducted by Permatasari, Ellianawati and Hardyanto (2019) on the web-based learning and assessment tools for the students of the Vocational School of Physics, experts determined the level of satisfaction with the learning

materials of the relevant program as 82%. One of the studies on student satisfaction on web-based platforms is Eygü and Karaman's (2013) study with 335 students. A significant relationship was found between the age of the students and the factors of personal suitability, learning, and program evaluation satisfaction, according to the studies in which they measured the personal fitness, effectiveness, learning, program evaluation, technology and material evaluations of the students who received computer programming associate degree education and the graduate degree of theology.

## **METHODOLOGY**

The study has a “descriptive” research design that aims to measure the satisfaction level of students enrolled in web-based education programs. Based on this, the study also has a “relational” design dimension based on the idea that the descriptive findings obtained will differ according to the individual characteristics of the participants. Descriptive analyzes (frequency analysis, central trend statistics), one-way analysis of variance, independent sample t test, correlation analysis were used to achieve such goals.

The aim of this study is to measure the satisfaction levels of the participants enrolled in the spiritual guidance distance education program in terms of instructional design and technical dimension. For this purpose, the following research questions were asked.

1. What are the satisfaction levels in the general evaluation of the spiritual guidance program?
2. What are the satisfaction levels in the sub-dimensions?
3. Do satisfaction levels differ according to the individual characteristics of the participants?

## **Research Application and Sampling**

The study was conducted with 195 students who received Spiritual Guidance Education through distance education from Selcuk University Continuing Education Center between December 2, 2019 - January 06, 2020, using an online survey method. Since it is possible to reach the entire population of the study, sampling was not used.

*Table 1. Distribution of the Individual Differences of the Participants*

|                    | Group             | Frequency | Percentage |
|--------------------|-------------------|-----------|------------|
| Age                | 18-25             | 48        | 25.1       |
|                    | 26-33             | 49        | 25.6       |
|                    | 34-41             | 56        | 29.3       |
|                    | 42 +              | 38        | 19.9       |
| Educational Status | High School       | 13        | 7.0        |
|                    | Associate Degree  | 61        | 33.1       |
|                    | Bachelor's Degree | 105       | 57.0       |
|                    | Post-graduate     | 9         | 4.8        |
| Employment Status  | Public            | 111       | 59.6       |
|                    | Private Sector    | 13        | 7.5        |
|                    | Self-Employment   | 4         | 2.1        |
|                    | Unemployed        | 65        | 31.1       |
| Gender             | Female            | 116       | 59.7       |
|                    | Male              | 78        | 40.2       |

## Measuring Instrument

Based on the data obtained from the relevant literature review and previous studies, the researchers developed a 30-question distance education assessment scale consisting of two dimensions. In the study in which the questionnaire was used as the data collection tool, a 5-point Likert-type scale was used, where 1 represents the lowest and 5 represents the highest satisfaction level. The researchers found the reliability value (alpha) of the scale they developed to be .928.

In this study, alpha reliability values were calculated separately for the whole scale and sub-dimensions. While the alpha reliability value for the whole scale was .928, such values were calculated as .821 for the sub-dimensions aesthetic evaluation dimension and .922 for the instructor evaluation dimension. Positive and significant correlations between the general assessment index of the spiritual guidance education program and the sub-dimensions aesthetic assessment ( $r = .928$ ,  $p < .001$ ) and instructive dimension assessment ( $r = .749$ ,  $p < .001$ ) reveal the construct validity of the scale.

*Table 2. Reliability Values of the Questionnaire*

| Variables                                | Number of Items | Cronbach Alpha |
|--|-----------------|----------------|
| Instructional Design and Content Editing | 17              | .933           |
| Technical Dimension                      | 15              | .888           |
| General Program Evaluation               | 32              | <b>.947</b>    |

## **FINDINGS**

Descriptive statistics, regression analysis, correlation analysis and one-way analysis of variance were used to obtain descriptive and relational findings.

### **Results of the Central Tendency Regarding the General Assessment of the Spiritual Counseling Program**

Descriptive analyzes were applied in order to reveal the satisfaction level of the participants regarding the instructional design, content editing and technical dimensions of the distance education program. In the first stage, central tendency statistics were applied to a total of 30 items measuring satisfaction levels related to instructional design and content editing and technical dimension in spiritual guidance education. As can be seen in Table 3, the related items are listed according to their arithmetic mean value from high to low. Accordingly, the first five items with the highest satisfaction level of those enrolled in the spiritual guidance distance education program are listed as follows:

1. The level of usability of the program by people with basic computer knowledge and experience (Technical Dimension)
2. I can access the website quickly and easily. (Technical Dimension)
3. I am able to have unlimited access to the learning environment and course materials without any problems. (Technical Dimension)
4. I am generally satisfied with the technical (web) competencies of the distance education program I have received (Technical Dimension)
5. The system allows the user to control (pause, play forward and backward) in the video materials of the lessons. (Technical Dimension)

On the other hand, the items of aesthetic and didactic dimensions, which the students are satisfied with the least, are listed as follows:

### ***Measuring Student Satisfaction Level Regarding Instructional Design and Technical Dimension***

1. Level of communication and interaction with other students enrolled in the program. (Technical Dimension)
2. It is sufficient to reinforce the course contents with subject exercises and test questions. (Instructional Design and Content Editing Dimension)
3. The pre-test conducted with the student is suitable for measuring the student's competencies. (Instructional Design and Content Editing Dimension)
4. The course materials offered are sufficient to achieve the targeted learning outcomes. (Instructional Design and Content Editing Dimension)
5. The tests prepared for whether the goals of the lessons are achieved or not are compatible with the learning outcomes. (Instructional Design and Content Editing Dimension)

According to the results in Table 4 (total), the satisfaction levels ( $\chi = 3.98$ ) of the participants enrolled in the spiritual guidance distance education program regarding the general education design and technical dimension are at a "high" level. When the dimensions of satisfaction related to the distance education program are examined, the highest level of satisfaction is the instructional design and content arrangement ( $\chi = 3.87$ ) in relation to the general teacher satisfaction.

When the average values of the top three items in the satisfaction ranking are examined, it will be seen that all three correspond to the "very high" level of satisfaction, which is in the range of 4.40-4.52 in the scale of 5.

On the other hand, the least satisfied dimension was the pre-test conducted with the student by reinforcing the course contents with subject exercises and test questions ( $= 3.3$ ), the instructional design and content dimension regarding the measurement of the student's competencies ( $= 3.5$ ).

The dimensions with the lowest level of satisfaction correspond to "medium" level of satisfaction in the 5-point scale. In other words, even the least satisfactory educational design and content dimensions are not below medium level. This value means that the instructional design and content dimension satisfaction levels of the distance education program participants are at a "high" level (the five-point Likert scale was used to measure the satisfaction level of the instructional design and content dimension).

Looking at the evaluations of the participants regarding the spiritual counseling program in terms of sub-dimensions, according to the results in Table 5, the general evaluation average for the technical dimension was 4.12, and the general evaluation for the design and content dimension was 3.87.

Answers naturally range from 1 to 5, so a range of 0.80 (4/5) was used for level determination: 1,00-1,80 = very low; 1,81-2,60 = low; 2,61-3,40 = medium; 3,41-4,20 = high; 4,21-5,00 = very high.

## Measuring Student Satisfaction Level Regarding Instructional Design and Technical Dimension

*Table 3. Statistical Results of the Central Tendency Regarding the General Evaluation of the Spiritual Guidance Program*

|  | N   | Lowest | Highest | Mean   | S. Deviation |
|--|-----|--------|---------|--------|--------------|
| The level of usability of the program by people with basic computer knowledge and experience   | 194 | 1,00   | 5,00    | 4,5206 | ,70680       |
| I can access the website quickly and easily.   | 193 | 1,00   | 5,00    | 4,5078 | ,73682       |
| I am able to have unlimited access to the learning environment and course materials without any problems.  | 193 | 1,00   | 5,00    | 4,4041 | ,73057       |
| I am generally satisfied with the technical (web) competencies of the distance education program I have received   | 194 | 1,00   | 5,00    | 4,3763 | ,91485       |
| The system allows the user to control (pause, play forward and backward) in the video materials of the lessons.  | 194 | 1,00   | 5,00    | 4,3454 | ,76808       |
| The general objectives of the program have been stated.  | 195 | 1,00   | 5,00    | 4,3231 | ,80797       |
| The menus of the program contain sufficient information.   | 192 | 1,00   | 5,00    | 4,2917 | ,84898       |
| I am generally satisfied with the course contents of the distance education program I have received  | 195 | 1,00   | 5,00    | 4,2564 | ,86507       |
| The program provides sufficient information about my education process (course follow-up, exam results, etc.).   | 194 | 1,00   | 5,00    | 4,1649 | ,92943       |
| I am not having any problems downloading course materials and uploading files to the system.   | 193 | 1,00   | 5,00    | 4,1295 | ,92916       |
| I can access the lectures and supplementary materials of the courses in the system from mobile devices.  | 194 | 1,00   | 5,00    | 4,1289 | ,84491       |
| I can access items such as text, sound, video, and graphics used in the course contents without any problem.   | 193 | 1,00   | 5,00    | 4,0984 | 1,00294      |
| I have no problem attending the online (live) lessons of the program   | 193 | 1,00   | 5,00    | 4,0933 | ,91947       |
| The relationship between the goals and content determined at the end of each lesson is revealed.   | 194 | 1,00   | 5,00    | 4,0464 | ,91782       |
| The contents of the courses were prepared using the right media tools.   | 194 | 1,00   | 5,00    | 4,0258 | ,88415       |
| The relationship between different parts of a course is defined.   | 193 | 1,00   | 5,00    | 4,0207 | ,85974       |
| I have no problem participating in the virtual classroom application of the program.   | 192 | 1,00   | 5,00    | 3,9792 | ,95970       |
| Learning outcomes (goals / objectives) of each lesson are expressed.   | 195 | 1,00   | 5,00    | 3,9538 | 1,00664      |
| Course contents are prepared in a way to facilitate learning.  | 195 | 1,00   | 5,00    | 3,9385 | 1,05337      |
| Course content and learning outcomes are compatible.   | 194 | 1,00   | 5,00    | 3,9330 | 1,00292      |
| Course contents follow a development from concrete to abstract, from simple to complex.  | 194 | 1,00   | 5,00    | 3,8918 | ,90114       |
| The measurement and evaluation (exam, homework, etc.) processes are in line with the general objectives of the program in terms of whether the goals of the program are achieved or not. | 194 | 1,00   | 5,00    | 3,8608 | 1,00063      |
| The content of the course contains enough information and directions to provide a more comprehensive understanding of the subject.   | 194 | 1,00   | 5,00    | 3,8299 | ,99581       |
| I can get help when I encounter any technical problems.  | 193 | 1,00   | 5,00    | 3,7927 | ,95664       |
| Feedbacks to student questions (interaction) are problem solving and encouraging to learn.   | 194 | 1,00   | 5,00    | 3,7629 | ,98983       |
| Warnings and directions about interrelated or confusing topics were included in the course contents sufficiently.  | 194 | 1,00   | 5,00    | 3,7423 | 1,02587      |
| I have no problem communicating, interacting with the lecturer.  | 191 | 1,00   | 5,00    | 3,6649 | 1,04266      |
| The tests prepared for whether the goals of the lessons are achieved or not are compatible with the learning outcomes.   | 194 | 1,00   | 5,00    | 3,6340 | 1,03066      |
| The course materials offered are sufficient to achieve the targeted learning outcomes.   | 194 | 1,00   | 5,00    | 3,6031 | 1,13913      |
| The pre-test conducted with the student is suitable for measuring the student's competencies.  | 193 | 1,00   | 5,00    | 3,5959 | 1,07160      |
| It is sufficient to reinforce the course contents with subject exercises and test questions.   | 192 | 1,00   | 5,00    | 3,3906 | 1,24426      |
| I have no problem communicating and interacting with other students enrolled in the program.   | 193 | 1,00   | 5,00    | 3,2280 | 1,10390      |



### **Measuring Student Satisfaction Level Regarding Instructional Design and Technical Dimension**

*Table 4. Descriptive Analysis Results Regarding the General Satisfaction Level of the Training Program*

|   | N   | Lowest | Highest | Mean   | S. Deviation |
|---|-----|--------|---------|--------|--------------|
| General Evaluation of Distance Education Program According to Instructional Design, Content and Technical Dimension | 195 | 1,13   | 5,00    | 3,9872 | ,57867       |

*Table 5. Descriptive Analysis Results on Aesthetics and Instructional Dimension Satisfaction*

|   | N   | Lowest | Highest | Mean   | S. Deviation |
|---|-----|--------|---------|--------|--------------|
| General Evaluation Regarding Technical Dimension          | 195 | 1,13   | 5,00    | 4,1201 | ,55801       |
| General Evaluation Regarding Design and Content Dimension | 195 | 1,12   | 5,00    | 3,8730 | ,68928       |

## **Spiritual Counseling Program Assessment and Individual Qualifications**

Under this heading, it was examined whether the satisfaction levels of the participants with the spiritual guidance program differ according to their individual qualities. In this sense, the first examination was made on the basis of age.

### **General Satisfaction Evaluation and Age**

No significant correlation was found between the age of the participants and technical dimension ( $r = -.06$ ,  $p > .05$ ), instructional design and content dimension ( $r = .011$ ,  $p > .05$ ) and general evaluation index ( $r = -.04$ ,  $p > .05$ ).

*Table 6. Age and Satisfaction Level Correlation Analysis Results (Pearson  $r$ )*

|     | Technical Dimension | Instructional Design and Content Dimension | General Assessment |
|-----|---------------------|--|--------------------|
| Age | -.006               | .011                                       | -.004              |

## General Satisfaction Assessment and Gender

According to the results in Table 7, the satisfaction levels of the participants with the relevant program do not differ significantly according to their gender.

*Table 7. Satisfaction Level and Gender Independent Sample t Test Results*

| Level and Dimensions of Satisfaction       | Gender | N   | Mean   | t Test | Sig  |
|--|--------|-----|--------|--------|------|
| Technical Dimension                        | Female | 116 | 3,8488 | -,389  | ,697 |
|  | Male   | 79  | 3,9086 |        |      |
| Instructional Design and Content Dimension | Female | 116 | 4,1073 | -,594  | ,553 |
|  | Male   | 79  | 4,1390 |        |      |
| General Assessment                         | Female | 116 | 3,9692 | -,563  | ,602 |
|  | Male   | 79  | 4,0135 |        |      |

## General Satisfaction Assessment and Education

One-way analysis of variance (ANOVA) was applied with the match to test the prediction that the satisfaction levels of the spiritual guidance distance education program of the participants will differ according to their education level. According to the results in Table 9, the satisfaction level of the participants with the relevant program does not differ significantly according to their education level ( $F = .554$ ,  $p > .05$ ). Again, among the sub-dimensions of the program, the level of technical and instructional design did not differ significantly according to the education level ( $F = .098$ ,  $p > .05$ ;  $F = 1.104$ ,  $p > .05$ ).

## General Satisfaction Assessment and Employment Status

One-way analysis of variance (ANOVA) was applied to test the prediction that the satisfaction levels of the spiritual guidance distance education program of the participants will differ according to their employment status. According to the results in Table 10, the general satisfaction level of the participants with the relevant program does not differ significantly according to their employment status ( $F = 2.323$ ,  $p > .05$ ). Again, one of the sub-dimensions of the program, the level of satisfaction with the technical and instructional design did not differ significantly according to the employment status ( $F = 1.741$ ,  $p > .05$ ;  $F = .2194$ ,  $p > .05$ ).

**Measuring Student Satisfaction Level Regarding Instructional Design and Technical Dimension**

*Table 8. Satisfaction Level and Education Level ANOVA Results*

| Level and Dimensions of Satisfaction       | Education         | N   | Mean   | F-test | Sig  |
|--|-------------------|-----|--------|--------|------|
| Technical Dimension                        | High School       | 13  | 4,1333 | ,098   | ,961 |
|  | Associate Degree  | 59  | 4,1144 |        |      |
|  | Bachelor's Degree | 101 | 4,1090 |        |      |
|  | Post-graduate     | 22  | 4,1788 |        |      |
| Instructional Design and Content Dimension | High School       | 13  | 4,0452 | 1,104  | ,349 |
|  | Associate Degree  | 59  | 3,9148 |        |      |
|  | Bachelor's Degree | 101 | 3,7948 |        |      |
|  | Post-graduate     | 22  | 4,0183 |        |      |
| General Assessment                         | High School       | 13  | 4,0865 | 554    | ,646 |
|  | Associate Degree  | 59  | 4,0074 |        |      |
|  | Bachelor's Degree | 101 | 3,9418 |        |      |
|  | Post-graduate     | 22  | 4,0824 |        |      |

*Table 9. Satisfaction Level and Employment Status ANOVA Results*

| Level and Dimensions of Satisfaction       | Employment Status | N   | Mean   | F-test | Sig  |
|--|-------------------|-----|--------|--------|------|
| Technical Dimension                        | Public            | 111 | 4,0852 | 1,741  | ,160 |
|  | Private Sector    | 13  | 4,3026 |        |      |
|  | Self-Employment   | 4   | 4,6333 |        |      |
|  | Unemployed        | 65  | 4,1144 |        |      |
| Instructional Design and Content Dimension | Public            | 111 | 3,7959 | 2,194  | ,090 |
|  | Private Sector    | 13  | 4,0407 |        |      |
|  | Self-Employment   | 4   | 4,5588 |        |      |
|  | Unemployed        | 65  | 3,9277 |        |      |
| General Assessment                         | Public            | 111 | 3,9285 | 2,323  | ,076 |
|  | Private Sector    | 13  | 4,1635 |        |      |
|  | Self-Employment   | 4   | 4,5938 |        |      |
|  | Unemployed        | 65  | 4,0154 |        |      |

## **DISCUSSION AND CONCLUSION**

WBDE platforms can meet the lifelong learning needs of individuals by removing all kinds of restrictions such as place, time, age, education level. During the pandemic we are going through, educational institutions in almost all of the globe have provided learners with access to information with WBDE applications, which provide an accessible learning environment from computers and mobile devices. There are many criteria in the design and evaluation of the WBDE environment, which offers a rich learning experience with many different educational materials, especially online live lessons and online resources. In this study, participants of individuals who have received a bachelor's degree in the teaching field, including graduates primarily theology and undergraduate programs in Turkey where Spiritual Guidance Training Program, aimed to measure student satisfaction levels in instructional design and technical aspects. In the study, which had a descriptive research design, the "relational" design dimension was also evaluated considering the personal learning needs of the participants and the differences in technical level experience.

In the general evaluations of the sample of Spiritual Guidance Training Program participants, the level of satisfaction ( $\chi = 3.98$ ) regarding the instructional design and technical dimension is at a "high" level. The least satisfactory items in the instructional design dimension of the participants were the reinforcement of course contents with subject exercises and test questions ( $\chi = 3.3$ ) and the pre-test conducted with the student to measure the student's proficiency ( $\chi = 3.5$ ). The item that students were most satisfied with in both general and technical dimensions was the level of communication and interaction ( $\chi = 3.2$ ) with other students enrolled in the program. In relation to the relational design, it was determined that the satisfaction levels of the participants with the relevant program did not differ significantly according to their gender, education level and working status.

The results of the study revealed that the personal learning needs of the individuals should be determined with the pre-test in the dimension of instructional design and the teaching process should be designed to meet their personal learning needs. Again, in order to reinforce the learning process, to increase the retention of the acquired knowledge and to transform the knowledge into behavior, it is necessary to present the subject exercises and test questions in a way that supports individual learning processes. As it is known, interaction in the teacher-learner relationship is an important factor that increases the level of learning and satisfaction, but not only the teacher-learner interaction, but also the learner-learner interaction is an important dimension that increases the level of satisfaction in WBDE. Learner to learner interaction constitutes an important interaction dimension that responds to the need for active knowledge acquisition and information structuring in meeting educational needs with the sense of trust provided by the sense of community. The

results of the study revealed that the learner to learner interaction dimension in the Spiritual Guidance Training Program is insufficient and online communication forums that will allow interaction should be created and the different needs of the participants to be developed in this field should be answered. Examining the WBDL platforms in which the participants are highly satisfied with the interaction level in this regard and determining the student experiences and opinions in detail will make positive contributions to the design and implementation process of both the current program and the programs to be developed from now on.

## **REFERENCES**

- Akbulut, K. (2017). *Mali Cözüm Dergisi*. Academic Press.
- Akça, M., & Aydoğan, T. (2015). Web tabanlı uzaktan eğitim için çevrimiçi veritabanı editörü tasarımı. *Pamukkale Üniversitesi Mühendislik Bilimleri Dergisi*, 21(5), 178–181.
- Ben-Chayim, A., & Offir, B. (2019). Model of the mediating teacher in distance learning environments: Classes that combine asynchronous distance learning via videotaped lectures. *Journal of Educators Online*, 16(1), 11. doi:10.9743/jeo.2019.16.1.1
- Berge, Z. L. (1999). Interaction in post-secondary web-based learning. *Educational Technology*, 39(1), 5–11.
- Çakmak, A. Ç. (2013). Uzaktan eğitim hizmetinin öğrenciler tarafından değerlendirilmesi: Karabük Üniversitesi'nde bir uygulama. *İstanbul Ticaret Üniversitesi Sosyal Bilimleri Dergisi*, 12(23), 263-287.
- Chatwattana, P., & Nilsook, P. (2017). A Web-based learning system using project-based learning and imagineering. *International Journal of Emerging Technologies in Learning*, 12(05), 4–22. doi:10.3991/ijet.v12i05.6344
- Cheng, F. F., Chiu, C. C., Wu, C. S., & Tsaih, D. C. (2017). The influence of learning style on satisfaction and learning effectiveness in the asynchronous web-based learning system. *Library Hi Tech*, 35(4), 473–489. doi:10.1108/LHT-12-2016-0151
- Chiu, C. M., & Wang, E. T. (2008). Understanding Web-based learning continuance intention: The role of subjective task value. *Information & Management*, 45(3), 194–201. doi:10.1016/j.im.2008.02.003

Cidral, W. A., Oliveira, T., Di Felice, M., & Aparicio, M. (2018). E-learning success determinants: Brazilian empirical study. *Computers & Education*, 122, 273–290. doi:10.1016/j.compedu.2017.12.001

Cook, D. A. (2007). Web-based learning: Pros, cons and controversies. *Clinical Medicine*, 7(1), 37–42. doi:10.7861/clinmedicine.7-1-37 PMID:17348573

Crismond, D. P., & Adams, R. S. (2012). The informed design teaching and learning matrix. *Journal of Engineering Education*, 101(4), 738–797. doi:10.1002/j.2168-9830.2012.tb01127.x

Duffy, P. (2008). Engaging the YouTube Google-eyed generation: Strategies for using Web 2.0 in teaching and learning. *Electronic Journal of E-learning*, 6(2), 119–130.

Eygü, H., & Karaman, S. (2013). *Uzaktan eğitim öğrencilerinin memnuniyet alguları üzerine bir araştırma*. Academic Press.

Gülner, B. (2008). Bilgisayar ve internet destekli uzaktan eğitim programlarının tasarım, geliştirme ve değerlendirme aşamaları (Suzep örneği). *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (19), 259–271.

Hsu, L. (2017). Enhancing college students' satisfaction and learning interest when the teacher uses a web-based platform while teaching. *American Journal of Educational Research*, 5(1), 18–24.

Jackson, L., Jones, S., & Rodriguez, R. C. (2010). Faculty actions that result in student satisfaction in online courses. *Journal of Asynchronous Learning Networks*, 14(4), 78–96. doi:10.24059/olj.v14i4.129

Jolliffe, A., Ritter, J., & Stevens, D. (2012). *The online learning handbook: Developing and using web-based learning*. Routledge. doi:10.4324/9780203062432

Kaba, A. U., Güneş, A., & Altıntaş, T. (2012). *E-öğrenmede destek hizmetlerinin öğrenen memnuniyetine etkisi*. 11th International Educational Technology Conference, 25-27 May 2011, Istanbul University, İstanbul, Turkey.

Kaysi, F., & Aydemir, E. (2017). Uzaktan eğitim süreçlerindeki etkileşim boyutlarının değerlendirilmesi. *Sosyal Bilimler Dergisi*, 4(11), 778–790.

Khan, B. H. (2001). A framework for web-based learning. *Web-Based Training*, 75-98.

Korkmaz, Ö., Çakır, R., & Tan, S. S. (2015). Öğrencilerin e-öğrenmeye hazır bulunuşluk ve memnuniyet düzeylerinin akademik başarıya etkisi. *Journal of Kirsehir Education Faculty*, 16(3), 123–149.

- Lee, K. (2018). Everyone already has their community beyond the screen: Reconceptualizing online learning and expanding boundaries. *Educational Technology Research and Development*, 66(5), 1255–1268. doi:10.1007/11423-018-9613-y
- Lee, S. J., & Reeves, T. C. (2007). Edgar Dale: A significant contributor to the field of educational technology. *Educational Technology*, 47(6), 56.
- McKimm, J., Jollie, C., & Cantillon, P. (2003). Web based learning. *BMJ (Clinical Research Ed.)*, 326(7394), 870–873. doi:10.1136/bmj.326.7394.870 PMID:12702625
- Metin, A. E., & Karaman, A., & Şaştım. (2017). Öğrencilerin uzaktan eğitim sistemine bakış açısı ve uzaktan eğitim İngilizce dersinin verimliliğinin değerlendirilmesi: Banaz Meslek Yüksekokulu. *Karabuk University Journal of Institute of Social Sciences*, 7(2), 640–652.
- Nichols, M. (2016). Reading and studying on the screen: An overview of literature towards good learning design practice. *Journal of Open, Flexible, and Distance Learning*, 20(1), 33–43.
- Permatasari, G. A., Ellianawati, E., & Hardyanto, W. (2019). Online web-based learning and assessment tool in vocational high school for physics. *Jurnal Penelitian & Pengembangan Pendidikan Fisika*, 5(1), 1–8. doi:10.21009/1.05101
- Rouet, J. F. (2006). *The skills of document use: From text comprehension to Web-based learning*. Psychology Press. doi:10.4324/9780203820094
- Şahin, T. Y., & Yıldırım, S. (1999). Öğretim teknolojileri ve materyal geliştirme. Academic Press.
- Virtanen, M. A., Kääriäinen, M., Liikanen, E., & Haavisto, E. (2017). The comparison of students' satisfaction between ubiquitous and web-based learning environments. *Education and Information Technologies*, 22(5), 2565–2581. doi:10.1007/10639-016-9561-2
- Woo, Y., & Reeves, T. C. (2007). Meaningful interaction in web-based learning: A social constructivist interpretation. *The Internet and Higher Education*, 10(1), 15–25. doi:10.1016/j.iheeduc.2006.10.005
- Yalman, M. (2013). Eğitim fakültesi öğrencilerinin bilgisayar destekli uzaktan eğitim sistemi (moodle) memnuniyet düzeyleri. *Electronic Turkish Studies*, 8(8), 1395–1406. doi:10.7827/TurkishStudies.5357

***Measuring Student Satisfaction Level Regarding Instructional Design and Technical Dimension***

Yang, X., Guo, X., & Yu, S. (2016). Student-generated content in college teaching: Content quality, behavioural pattern and learning performance. *Journal of Computer Assisted Learning*, 32(1), 1–15. doi:10.1111/jcal.12111

Zaiane, O. (2001). *Web usage mining for a better web-based learning environment*. Academic Press.

Zhang, D., Zhou, L., Briggs, R. O., & Nunamaker, J. F. Jr. (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information & Management*, 43(1), 15–27. doi:10.1016/j.im.2005.01.004



## Compilation of References

Aarsand, P. (2010). Young boys playing digital games. *Nordic Journal of Digital Literacy*, 5(1), 38–55.

Abbott, L. E. (2019). *The ABC's of Triangle, Square, Circle: The Bauhaus and Design Theory*. Princeton Architectural Press.

Abeywardena, I. S. (2017). *An empirical framework for mainstreaming OER in an academic institution*. *Asian Association of Open Universities Journal*. doi:10.1108/AAOUJ-11-2017-0036

Açıkgöz, K. Ü. (2003). *Aktif öğrenme*. Eğitim Dünyası Yayınları.

Adamopoulos, P. (2013). What makes a great MOOC? An interdisciplinary analysis of student retention in online courses. *Proc. of 34th Intern'l Conf. on Info. Systems*. Retrieved from <http://pages.stern.nyu.edu/~padamopo/What%20makes%20a%20great%20MOOC.pdf>

Ajayi, L. (2011). A multiliteracies pedagogy: Exploring semiotic possibilities of a Disney video in a third grade diverse classroom. *The Urban Review*, 43(3), 396–413. doi:10.1007/11256-010-0151-0

Akbulut, K. (2017). *Mali Cözüm Dergisi*. Academic Press.

Akça, M., & Aydoğan, T. (2015). Web tabanlı uzaktan eğitim için çevrimiçi veritabanı editörü tasarımı. *Pamukkale Üniversitesi Mühendislik Bilimleri Dergisi*, 21(5), 178–181.

Akkerman, S., Admiraal, W., & Huizenga, J. (2009). Storification in history education: A mobile game in and about medieval Amsterdam. *Computers & Education*, 52(2), 449–459. doi:10.1016/j.compedu.2008.09.014

Alexander, J. (2009). Gaming, student literacies, and the composition classroom: Some possibilities for transformation. *College Composition and Communication*, 61(1), 35–63.

Alkan, A., & Bala, H.A. (2017). Solar Energy And The City's Future Reflection. *Journal of Solar Energy Research*, 2(2), 55-60.

Althusser, L. (2020). *Filozof Olmayanlar İçin Felsefeye Giriş* (İ. Birkan, Çev.). İstanbul: Can Yay.

Andrews, M. (1999). *Landscape and Western Art*. New York: Oxford University Press Inc.

### **Compilation of References**

- Annetta, L. A. (2010). The “I’s” have it: A framework for serious educational game design. *Review of General Psychology*, 14(2), 105–112. doi:10.1037/a0018985
- Ardevol, E. (2005). Cyberculture: Anthropological perspectives of the Internet Universitat Oberta de Catalunya. In Using anthropological theory to understand media forms and practices workshop, Loughborough, UK.
- Arendt, H. (2006). İnsanlık Durumu (B. S. Şener, Çev.). İstanbul: İletişim.
- Atay, S. (2019). Killing Commendatore In-Between. *European Journal of Literary Studies*, 2, 55–64.
- Atay, S. (2019). Post-Soviet Era and Postmodern Image Production. *Revista de Ştiinţe Politice. Revue des Sciences Politiques*, 6, 92–103.
- Atkins, D. E., Brown, J. S., & Hammond, A. L. (2007). *A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and New Opportunities*. Hewlett Foundation.
- Bala, H. A., & Arat, Y. (2013). Digital Pedagogy Using Social Network Tools in Architectural Education. *Procedia Information Technology & Computer Science*, 3, 160-166. Available from: <http://www.world-education-center.org/index.php/P-ITCS>
- Bala, A. H., & Bussiere, M. (2012). Pedagogical Implication for International Cooperation in Architectural Design Studio. *AE-Lusafona Architectural & Education Journal*, (6-7), 9–27.
- Bard, A., & Söderqvist, J. (2012). *The Futurica Trilogy* (N. Smith, Trans.). Stockholm Text.
- Bard, A., & Söderqvist, J. (2015). *The Netocrats - Futurica Trilogy, Part 1*. Karakalem Kitabevi.
- Barton, D. (2018). McKinsey Quarterly 2018 Number 2: Overview and full issue. *The McKinsey Quarterly*.
- Basalla, G. (2000). Teknolojinin Evrimi (C. Soydemir, Çev.). Ankara: Tübitak Yay.
- Baudrillard, J. (2012). İmkansız Takas (A. Sönmezay, Çev.). İstanbul: Ayrıntı Yay.
- Beavis, C. (2012). Video games in the classroom: Developing digital literacies. *Practically Primary*, 17(1), 17–20.
- Beavis, C. (2014). Games as text, games as action. *Journal of Adolescent & Adult Literacy*, 57(6), 433–439. doi:10.1002/jaal.275
- Beavis, C., Muspratt, S., & Thompson, R. (2015). Computer games can get your brain working’: Student experience and perceptions of digital games in the classroom. *Learning, Media and Technology*, 40(1), 21–42. doi:10.1080/17439884.2014.904339
- Bellanca, J. A. (Ed.). (2010). *21st century skills: Rethinking how students learn*. Solution Tree Press.
- Bell, D. (2007). *Cyberculture Theorists: Manuel Castells and Donna Haraway*. Routledge.

- Ben-Chayim, A., & Offir, B. (2019). Model of the mediating teacher in distance learning environments: Classes that combine asynchronous distance learning via videotaped lectures. *Journal of Educators Online*, 16(1), 11. doi:10.9743/jeo.2019.16.1.1
- Benjamin, W. (1969). The Work of Art in the Age of Mechanical Reproduction (H. Zohn, Trans.). In Arendt H. (Ed.), *Illuminations*. Schocken Books. <https://web.mit.edu/allanmc/www/benjamin.pdf>
- Benjamin, W. (2014). *L'opera d'arte nell'epoca della sua riproducibilità tecnica*. A cura di Francesco Valagussa con un saggio di Massimo Cacciari. Einaudi. (Original work published 1936)
- Berge, Z. L. (1997). Computer conferencing & the online classroom. *International Journal of Educational Telecommunications*, 3(1).
- Berge, Z. L. (1999). Interaction in post-secondary web-based learning. *Educational Technology*, 39(1), 5–11.
- Bergson, H. (2018). Yarattıcı Tekamül (M. Ş. Tunç, Çev.). İstanbul: Dergay Yay.
- Bishop, C. (2017). *Museologia radicale. Ovvero, cos'è "contemporaneo" nei musei di arte contemporanea?* Johan & Levi.
- Blanchard, G. (2006). O Uso da Internet a Serviço da Comunicação do Partido. *Libero*, (18), 9–17.
- Boatto, A. (2005). *Narciso infranto. L'autoritratto moderno da Goya a Warhol*. Laterza; doi:10.1145/988772.988811
- Borbely, I. (2020). Mind The Gap in 2020: Beginning of a New Era in Theatre. In *Argumentor 6 Mind The Gap*, (pp. 243-253). Oradea: Partium Press & Debrecen: Debrecen University Press. [https://www.researchgate.net/publication/344248842\\_Mind\\_the\\_Gap\\_Proceedings\\_of\\_the\\_sixth\\_Argumentor\\_Conference](https://www.researchgate.net/publication/344248842_Mind_the_Gap_Proceedings_of_the_sixth_Argumentor_Conference)
- Borst, A. (1997). *Computus* (Z. A. Yılmaz, Çev.). Dost Kitabevi.
- Braga, S., França, A. S. T., & Nicolás, M. A. (2009). Os partidos políticos brasileiros e a Internet. Uma avaliação dos websites dos partidos políticos do Brasil. *Revista de Sociologia e Política*, 17(34), 183–208. doi:10.1590/S0104-44782009000300013
- Breivik, P. S. (2005). 21st century learning and information literacy. Change. *The Magazine of Higher Learning*, 37(2), 21–27. doi:10.3200/CHNG.37.2.21-27
- Çakmak, A. Ç. (2013). Uzaktan eğitim hizmetinin öğrenciler tarafından değerlendirilmesi: Karabük Üniversitesi'nde bir uygulama. *İstanbul Ticaret Üniversitesi Sosyal Bilimleri Dergisi*, 12(23), 263-287.
- Callaghan, V., Miller, J., Yampolskiy, R., & Armstrong, S. (2017). *Technological singularity*. Springer. doi:10.1007/978-3-662-54033-6
- Campione, F. P. (2009). Per un'estetica del crimine: da Sade a Lombroso. *Premio Nuova Estetica*, 23, 65-90.

## Compilation of References

- Canetti, E. (2000). *Kitle ve İktidar* (G. Aygen, Çev.). İstanbul: Ayrıntı Yay.
- Cardoso, A. M. (2012). *A Comunicação Política na Internet. Análise dos websites dos Partidos Políticos em Itália*. Retrieved from: [obs.obercom.pt/index.php/obs/article/download/173/212](http://obs.obercom.pt/index.php/obs/article/download/173/212)
- Cărtărescu, M. (2014). *Orbitor* (vol. 1, S. I. Acambet, Trans.). İstanbul: Ayrıntı.
- Castelfranchi, C., Conte, R., & Paolucci, M. (1998). Normative reputation and the costs of compliance. *Journal of Artificial Societies and Social Simulation*, 1(3), 3.
- Castells, M. (2002). *The Internet galaxy: Reflections on the Internet, business, and society*. Oxford University Press. doi:10.1093/acprof:oso/9780199255771.001.0001
- Castells, M. (2010). The Rise of The Network Society: The Information Age Economy. *Society and Culture*, 1.
- Castells, M., & Cardoso, G. (2005). *The Network Society: From Knowledge to Policy*. Johns Hopkins Center for Transatlantic Relations.
- Charles, A. (2018). *A new, interactive, digital-only museum aims to create a new relationship between people and art*. <https://www.bbc.com/culture/article/20180904-the-stunning-artworks-made-of-light>
- Chatwattana, P., & Nilsook, P. (2017). A Web-based learning system using project-based learning and imagineering. *International Journal of Emerging Technologies in Learning*, 12(05), 4–22. doi:10.3991/ijet.v12i05.6344
- Cheng, F. F., Chiu, C. C., Wu, C. S., & Tsaih, D. C. (2017). The influence of learning style on satisfaction and learning effectiveness in the asynchronous web-based learning system. *Library Hi Tech*, 35(4), 473–489. doi:10.1108/LHT-12-2016-0151
- Chiu, C. M., & Wang, E. T. (2008). Understanding Web-based learning continuance intention: The role of subjective task value. *Information & Management*, 45(3), 194–201. doi:10.1016/j.im.2008.02.003
- Cidral, W. A., Oliveira, T., Di Felice, M., & Aparicio, M. (2018). E-learning success determinants: Brazilian empirical study. *Computers & Education*, 122, 273–290. doi:10.1016/j.compedu.2017.12.001
- Codeluppi, V. (2015). *Selfie. Un monumento per tutti*. Consorzio Festivafilosofia, Modena-Carpi-Sassuolo.
- Coleman, S. (2017). Democratic agency in an age of digital networks. *Revista Compolítica*, 7(1), 7–26.
- Connell, R. (1996). Teaching the boys: New research on masculinity, and gender strategies for schools. *Teachers College Record*, 98(2), 206–235.
- Conway, M., & Dorner, D. (2004). *An evaluation of New Zealand political party Websites*. Retrieved from: <http://informationr.net/ir/9-4/paper196.html>

- Cook, D. A. (2007). Web-based learning: Pros, cons and controversies. *Clinical Medicine*, 7(1), 37–42. doi:10.7861/clinmedicine.7-1-37 PMID:17348573
- Cope, B., & Kalantzis, M. (2009). “Multiliteracies”: New literacies, new learning. *Pedagogies*, 4(3), 164–195. doi:10.1080/15544800903076044
- Cope, B., & Kalantzis, M. (Eds.). (2000). *Multiliteracies: Literacy learning and the design of social futures*. Routledge.
- Crismond, D. P., & Adams, R. S. (2012). The informed design teaching and learning matrix. *Journal of Engineering Education*, 101(4), 738–797. doi:10.1002/j.2168-9830.2012.tb01127.x
- Crosby, A. W. (2003). Ateş Etmek (A. Görey, Çev.). İstanbul: Kitap Yay.
- Crowther, W. & Woods, D. (1977). *Colossal Cave Adventure* [Video game]. PDP-10.
- Cruz, T., Paulino, F., & Tavares, M. (2019). The Landscape in Digital Media Art: A Selection of Artworks. In *Proceedings of Artech 2019, 9th International Conference on Digital and Interactive Arts* (Artech 2019). <https://doi.org/10.1145/3359852.3359896>
- Cunha, C., Martín, I., Newell, J., & Ramiro, L. (2003). Southern European parties and party systems, and the new ICTs. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 70-97). London: Routledge.
- Day, E. R. (2002). What is ‘Cyberculture’?: Digital Culture and Critical Information Theory. In *Critical Cyberculture Studies Conference*. University of Maryland.
- DeCoito, I., & Richardson, T. (2016). Focusing on integrated STEM concepts in a digital game. In M. Urban & D. Falvo (Eds.), *Improving K-12 STEM Education* (pp. 1–23). IGI Global.
- Deleuze, G., & Felix, G. (2005). *A Thousand Plateaus Capitalism and Schizophrenia*. Minneapolis: The University of Minnesota Press.
- Deleuze, G. (2006). *Bergsonculuk* (H. Yücefer, Çev.). Otonom Yay.
- Deleuze, G., & Guattari, F. (1996). *Felsefe Nedir* (T. Ilgaz, Trans.). YKY.
- Demircan, K. (2013). *Dijital avatarlar insanın yerini alıyor*. Reached: <https://khosann.com/dijital-avatarlar-insanin-yerini-aliyor-olumsuzluk-pesindeki-rus548-milyarder-2045te-zihnini-bilgisayara-yukleyecek/>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: defining gamification. *Proc 15th MindTrek conference*, 9–15. 10.1145/2181037.2181040
- Di Gregorio, L. (2017). *La società dei selfie. Narcisismo e sentimento di sé nell’epoca dello smartphone*. FrancoAngeli.
- Downes, S. (2008). Article. In K. Habitzel, T. D. Märk, & S. Prock (Eds.), *An Introduction to Connective Knowledge* (pp. 7–102). Conference Series.

### Compilation of References

- Duffy, P. (2008). Engaging the YouTube Google-eyed generation: Strategies for using Web 2.0 in teaching and learning. *Electronic Journal of E-learning*, 6(2), 119–130.
- Duplâa, E., & Shirmohammadi, S. (2010). *Video games in the classroom building skills in literacy and numeracy*. Retrieved from [http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/ww\\_video\\_games.pdf](http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/ww_video_games.pdf)
- Duret, C., & Pons, C.-M. (2016). *Contemporary research on intertextuality in video games*. IGI Global. doi:10.4018/978-1-5225-0477-1
- Durkheim, É. (1898). Représentations individuelles et représentations collectives. *Revue de Métaphysique et de Morale*, 6(3), 273–302.
- Duverger, M. (1957). *Los Partidos Políticos*. Fundo de Cultura Económica.
- EADTU. (2015). *Institutional MOOC strategies in Europe*. Retrieved at Dec 2020 from [http://eadtu.eu/documents/Publications/OEenM/Institutional\\_MOOC\\_strategies\\_in\\_Europe.pdf](http://eadtu.eu/documents/Publications/OEenM/Institutional_MOOC_strategies_in_Europe.pdf)
- Eagleton, T. (1988). The Ideology of the Aesthetic. *Poetic Today Duke University Press*, 9(2), 327–338. doi:10.2307/1772692
- Eden, A. H., Moor, J. H., Søraker, J. H., & Steinhart, E. (2015). *Singularity Hypotheses*. Springer.
- e-Gazete. (2017). *Açıköğretimde “Parçalı Sınav Uygulaması” dönemi*. <http://egazete.anadolu.edu.tr/kampus/35658/acikogretimde-parcali-sinav555>
- Ellul, J. (2015). *Sözün Düşüşü* (H. Arslan, Çev.). İstanbul: Paradigma Yay.
- Eskilson, S. J. (2007). *Graphic Design A New History*. Laurence King Publishing.
- Etymology. (n.d.). *The Cambro-Briton* (Vol. 1, No. 10, pp. 367-374). <https://www.jstor.org/stable/30068963>
- Eygü, H., & Karaman, S. (2013). *Uzaktan eğitim öğrencilerinin memnuniyet algıları üzerine bir araştırma*. Academic Press.
- Fadel, C. (2008). *21st Century Skills: How can you prepare students for the new Global Economy*. Academic Press.
- Farmer, R., & Fender, R. (2005). E-Parties: Democratic and Republican State Parties in 2002. *Party Politics*, 11(1), 47–58. doi:10.1177/1354068805048472
- Ferguson, C. J., & Kilburn, J. (2009). The public health risks of media violence: A meta-analytic review. *The Journal of Pediatrics*, 154(5), 759–763. doi:10.1016/j.jpeds.2008.11.033 PMID:19230901
- Ferrari, S. (2002). *Lo specchio dell’Io. Autoritratto e psicologia*. Laterza.
- Ferriss, T. (2009). *The 4-Hour Workweek: Escape 9-5, Live Anywhere, and Join the New Rich*. Crown Publishing Group.

- Fischer, S. R. (2003). *History of writing*. Reaktion Books.
- Flusser, V. (1998). *Ensaio sobre a fotografia: para uma filosofia da técnica*. Lisboa: Relógio d'Água.
- Foster, A. N. (2009). *Gaming their way: Learning in simulation strategy video games?* (Doctoral Dissertation, Michigan State University). ProQuest Dissertations and Theses.
- Galeon, D., & Houser, K. (2017). *Google's Artificial Intelligence Built an AI That Outperforms Any Made by Humans, Futurism*. <https://futurism.com/google558-artificial-intelligence-built-ai/>
- Garcia, C. J. (n.d.). *Cybernetic Serendipity - The Computer and The Arts*. <http://threeminutemodernist.weebly.com/home/cybernetic-serendipity-the-computer-and-the-arts>
- Garrison, D. R. (1997). Computer Conferencing & Distance Education: Cognitive & Social Presence Issues. In *The New Learning Environment: A Global Perspective. Proceedings of the International Conference on Data Engineering World Conference*. Pennsylvania State University.
- Gee, J. P. (2003). *What video games have to teach us about learning and literacy* (1st ed.). Palgrave Macmillan. doi:10.1145/950566.950595
- Gee, J. P. (2007). *Good video games and good learning: Collected essays on video games, learning, and literacy*. P. Lang. doi:10.3726/978-1-4539-1162-4
- Ghahramani, Z. (2015). Probabilistic machine learning and artificial intelligence. *Nature*, 521(7553), 452–459. doi:10.1038/nature14541 PMID:26017444
- Giannetti, C. (2006). *Estética digital: Sintopia da arte, a ciência e a tecnologia*. Belo Horizonte: C/Arte.
- Gibson, R. K., & Ward, S. J. (2003). Letting the daylight in? Australian parties' use of the World Wide Web at the state and territory level. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 139-160). London: Routledge.
- Gibson, R. K., Margolis, M., Resnick, D., & Ward, S. (2003). Election campaigning on the WWW in the USA and UK: A comparative analysis. *Party Politics*, 9(1), 47–75. doi:10.1177/135406880391004
- Gibson, R. K., & Ward, S. J. (1998). UK. Political Parties and the Internet: "Politics as Usual" in the New Media. *The Harvard International Journal of Press/Politics*, 3(3), 14–38. doi:10.1177/1081180X98003003003
- Gibson, R. K., & Ward, S. J. (2000). A Proposed Methodology for Studying the Function and Effectiveness of Party and Candidate Websites. *Social Science Computer Review*, 18(3), 301–319. doi:10.1177/089443930001800306
- Gibson, W. (2016). *Neuromancer*. Altıkırkbes Yayınları.
- Gimpel, J. (2005). *Ortaçağda Endüstri Devrimi* (N. Özüaydın, Çev.). Ankara: Tübitak Yay.

## Compilation of References

- Girard, R. (2010). *Kültürün Kökenleri* (A. Er, & M. Yaman, Çev.). Ankara: Dost Kitabevi.
- Goertzel, B. (2007). Human-level artificial general intelligence and the possibility of a technological singularity: A reaction to Ray Kurzweil's *The Singularity Is Near*, and McDermott's critique of Kurzweil. *Artificial Intelligence*, 171(18), 1161–1173. doi:10.1016/j.artint.2007.10.011
- Gomes, W., Fernandes, B., Reis, L., & Silva, T. (2009). Politics 2.0: A campanha de Barack Obama em 2008. *Revista de Sociologia e Política*, 17(34), 29–43. doi:10.1590/S0104-44782009000300004
- Greenfield, A. (2010). *Everyware: The dawning age of ubiquitous computing*. New Riders.
- Gros, B. (2007). Digital games in education: The design of games-based learning environments. *Journal of Research on Technology in Education*, 40(1), 23–38. doi:10.1080/15391523.2007.10782494
- Gubern, R. (2007). *Del bisonte a la realidad virtual*. Barcelona: Editorial Anagrama.
- Gülbahar, Y. (2012). Study of developing scales for assessment of the levels of readiness and satisfaction of participants in e-learning environments. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 45(2), 119–138. doi:10.1501/Egifak\_0000001256
- Gülınar, B. (2008). Bilgisayar ve internet destekli uzaktan eğitim programlarının tasarım, geliştirme ve değerlendirme aşamaları (Suzep örneği). *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (19), 259–271.
- Gumulak, S., & Webber, S. (2011). Playing video games: Learning and information literacy. *Aslib Proceedings*, 63(2/3), 241–255. doi:10.1108/00012531111135682
- Gunawardena, C., & Zittle, F. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *American Journal of Distance Education*, 11(3), 8–26. doi:10.1080/08923649709526970
- Gurian, M., & Stevens, K. (2010a). *Boys and girls learn differently! A guide for teachers and parents*. Jossey-Bass.
- Gurian, M., & Stevens, K. (2010b). *The minds of boys: Saving our sons from falling behind in school and life*. Jossey-Bass.
- Gygax, G., & Arneson, D. (1974). *Dungeons and Dragons* [Video game]. Chicago: TSR. Wizards of the Coast.
- Hague, R., & Uhm, S.-Y. (2003). Online groups and offline parties: Korean politics and the Internet. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 195-217). London: Routledge.
- Hannafin, M. J., & Land, S. M. (1997). The foundations & assumptions of technology-enhanced student-centered learning environments. *Instructional Science*, 25(3), 167–202. doi:10.1023/A:1002997414652
- Hansell, G. R. (2011). *H+/-: Transhumanism and its Critics*. Xlibris Corporation.



- Harasim, L. M. (1990). *Online Education: Perspectives on a new environment*. Praeger.
- Head, K., & Taylor, P. (1997). *Readings in teacher development*. Heinemann.
- Heidegger, M. (1998). *Teknik ve Dönüş* (N. Aça, Çev.). Ankara: Bilim ve Sanat Yay.
- Hesiod. (2016). Theogony in *Anthology of Classical Myth*. Indianapolis: Hackett Publishing Company Inc. <https://users.pfw.edu/flemingd/Hesiod%20Theogony.pdf>
- Hine, C. (2000). *Virtual Ethnography*. London: Sage Publication.
- Hogg, R. V., & Hogg, M. C. (1995). Continuous quality improvement in higher education. *International Statistical Review/Revue Internationale de Statistique*, 35-48.
- Hogg, T., & Adamic, L. (2004). Enhancing reputation mechanisms via online social networks. In *Proceedings of the 5th ACM conference on Electronic commerce* (pp. 236-237). ACM.
- Hollands, F. M., & Tirthali, D. (2014). *MOOCs: expectations and reality*. Full report. Center for Benefit-Cost Studies of Education, Teachers College, Columbia University. Retrieved at Dec 2020 from [http://cbcese.org/wordpress/wpcontent/uploads/2014/05/MOOCs\\_Expectations\\_and\\_Reality.pdf](http://cbcese.org/wordpress/wpcontent/uploads/2014/05/MOOCs_Expectations_and_Reality.pdf)
- Horváth, G. (2020). Mind The Gap. Fine Arts in The Age of Pandemic. In *Argumentor 6 Mind The Gap*, (pp. 229-241). Oradea: Partium Press & Debrecen: Debrecen University Press. [https://www.researchgate.net/publication/344248842\\_Mind\\_the\\_Gap\\_Proceedings\\_of\\_the\\_sixth\\_Argumentor\\_Conference](https://www.researchgate.net/publication/344248842_Mind_the_Gap_Proceedings_of_the_sixth_Argumentor_Conference)
- Hsu, L. (2017). Enhancing college students' satisfaction and learning interest when the teacher uses a web-based platform while teaching. *American Journal of Educational Research*, 5(1), 18–24.
- Infocom. (1979). *Zork* [Video game]. Cambridge, MA: Personal Software Infocom Activision.
- Infocom. (1983). *Suspended: A Cryogenic Nightmare* [Video game]. Cambridge, MA: Infocom.
- Interplay Productions. (1985). *The Bard's Tale* [Video game]. Electronic Arts, Ariolasoft.
- Jackson, L., Jones, S., & Rodriguez, R. C. (2010). Faculty actions that result in student satisfaction in online courses. *Journal of Asynchronous Learning Networks*, 14(4), 78–96. doi:10.24059/olj.v14i4.129
- JISC. (2008). *Curriculum design*. <https://www.jisc.ac.uk/rd/projects/curriculum-design>
- Jolliffe, A., Ritter, J., & Stevens, D. (2012). *The online learning handbook: Developing and using web-based learning*. Routledge. doi:10.4324/9780203062432
- Joly, M. (1994). *Introdução à Análise da Imagem*. Lisboa: Edições 70.
- Jovchelovitch, S. (2001). Social Representations, Public Life, and Social Constructionism. In *Representations of the Social*. Oxford, UK: Blackwell Publishers.

## Compilation of References

- Kaba, A. U., Güneş, A., & Altıntaş, T. (2012). *E-öğrenmede destek hizmetlerinin öğrenen memnuniyetine etkisi. 11th International Educational Technology Conference*, 25-27 May 2011, Istanbul University, İstanbul, Turkey.
- Kalantzis, M., & Cope, B. (2012). *Literacies*. Cambridge University Press. doi:10.1017/CBO9781139196581
- Kang, M. (2015). Yaşayan Makinelerin Olağanüstü Düşleri (O. Düz, Çev.). İstanbul: İthaki Yay.
- Karlsen, R. (2009). Fear of the political Consultant: Campaign Professionals and New Technology in Norwegian Electoral Politics. *Party Politics*, 16(2), 193–214. doi:10.1177/1354068809341055
- Kaufman, M. (1994). Men, feminism, and men's contradictory experiences of power. In H. Brod & M. Kaufman (Eds.), *Theorizing Masculinities* (pp. 142–163). Sage Publications. doi:10.4135/9781452243627.n8
- Kaysi, F., & Aydemir, E. (2017). Uzaktan eğitim süreçlerindeki etkileşim boyutlarının değerlendirilmesi. *Sosyal Bilimler Dergisi*, 4(11), 778–790.
- Khan, B. H. (2001). A framework for web-based learning. *Web-Based Training*, 75-98.
- Kharod, H. (2018). *Elon Musk wants to give you super human cognitive powers*. <https://medium.com/hackernoon/elon-musk-wants-to-give-you-super574human-cognitive-powers-e8930b2ab1e9>
- Kimonen, E., & Nevalainen, R. (2005). Active learning in the process of educational change. *Teaching and Teacher Education*, 21(6), 623–635. doi:10.1016/j.tate.2005.05.003
- King, B. G., & Whetten, D. A. (2008). Rethinking the relationship between reputation and legitimacy: A social actor conceptualization. *Corporate Reputation Review*, 11(3), 192–207. doi:10.1057/crr.2008.16
- Kip Kayabaş, B. (2020a). *Eğitimde Açıklık ve Kitleli Açık Dersler*. Gece Kitaplığı Yayınevi.
- Kip Kayabaş, B. (2020b, Nov.). *Cooperative Education in Turkey Through Open and Distance Education. The Turkish Online Journal of Educational Technology*.
- Klossowski, P. (1970). Sade mon prochain. Sade prochainio mio. Preceduto da “Il filosofo scellerato”. SE.
- Kohli, S. (2015, Jan. 30). Bill Gates joins Elon Musk and Stephen Hawking in saying artificial intelligence is scary. *Quartz*.
- Korkmaz, Ö., Çakır, R., & Tan, S. S. (2015). Öğrencilerin e-öğrenmeye hazır bulunuşluk ve memnuniyet düzeylerinin akademik başarıya etkisi. *Journal of Kırşehir Education Faculty*, 16(3), 123–149.
- Kostelanetz, R. (Ed.). (1991). *Moholy-Nagy An Anthology*. Da Capo Press.
- Kronenburg, R. (1998). *Transportable Environments Theory Context, Design and Technology*. Routledge Press.

- Kurzweil, R. (2005). *The singularity is near: When humans transcend biology*. Penguin.
- Laboratory, H. A. L. (2014). *Super Smash Bros. Melee* [Video game]. Nintendo.
- Landels, J. G. (2004). Eski Yunan ve Roma'da Mühendislik (B. Bıçakçı, Çev.). Ankara: Tübitak Yay.
- Lane, C. A. (2018). *Multiliteracies meaning-making: How four boys' video gaming experiences influence their cultural knowledge—Two ethnographic cases* (Doctoral Dissertation, Western University). Electronic Thesis and Dissertation Repository. 5303. <https://ir.lib.uwo.ca/etd/5303>
- Lee, E. A. (2019). Dijital Ruh (A. Uysal, & G. Uysal, Çev.). İstanbul: KÜY.
- Lee, J. A. N. (1996). *International Biographical Dictionary of Computer Pioneers*. Routledge.
- Lee, K. (2018). Everyone already has their community beyond the screen: Reconceptualizing online learning and expanding boundaries. *Educational Technology Research and Development*, 66(5), 1255–1268. doi:10.1007/11423-018-9613-y
- Lee, S. J., & Reeves, T. C. (2007). Edgar Dale: A significant contributor to the field of educational technology. *Educational Technology*, 47(6), 56.
- Leeuwen, T. (2005). *Introducing Social Semiotics*. New York: Routledge.
- Leh, A. S. (2001). Computer-Mediated Communication & Social Presence in a Distance Learning Environment. *International Journal of Educational Telecommunications*, 7(2), 109–128.
- Lévy, P. (2001). *Cyberculture* (R. Bonnono, Trans.). University of Minneapolis Press.
- Linebaugh, P. (2012). Makine Kırıcılık (D. Esen, Çev.). İstanbul: Otonom Yay.
- Löfgren, K., & Smith, C. (2003). Political Parties and Democracy in the information age. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 39-52). London: Routledge.
- Lorch, B. (2002). *Landscape*. Retrieved from <https://lucian.uchicago.edu/blogs/mediatheory/keywords/landscape/>
- Louis, C. (1956). Essai d'une définition générale de la cybernétique. *The First International Congress on Cybernetics*, 46-54.
- Luíse, D., & Segurado, R. (2017). Redes Digitais e Debates Políticos: O caso “Truco Popular” no Facebook e a formação para a cidadania. *Ponto e Vírgula*, (22), 20–42.
- Lupton, E., & Miller, J. A. (Eds.). (2019). *The ABCs of Triangle, Square, Circle: The Bauhaus and Design Theory*. Princeton Architectural Press.
- Mac an Ghaill, M. (1994). *The making of men: Masculinities, sexualities and schooling*. Open University Press.
- Malkiel, Y. (1962). Etymology and General Linguistics. *Word*, 18, 1–3, 198–219. doi:10.1080/00437956.1962.11659774

## Compilation of References

- Manovich, L. (2002). *Avant-garde as Software, From “New Vision” to New Media*. General Format. [http://manovich.net/content/04-projects/027-avant-garde-as-software/24\\_article\\_1999.pdf](http://manovich.net/content/04-projects/027-avant-garde-as-software/24_article_1999.pdf)
- Manovich, L. (2001). *The Language of New Media*. The M.I.T. Press.
- Manovich, L. (2013). Media After Software. *Journal of Visual Culture*, 12(1), 30–37. doi:10.1177/1470412912470237
- Margolis, M., Resnick, D. & Wolfe, J. D. (1997b). Party Competition on the Internet in the United States and Britain. *Press/Politics*, 4, 24-47.
- Margolis, M., Resnick, D., & Tu, C. (1997a). Campaigning on the Internet: Parties and candidates on the Word Wide Web in the 1996 Primary Season. *The Harvard International Journal of Press/Politics*, 2(1), 59–78. doi:10.1177/1081180X97002001006
- Marinetti, F. T. (1999). Manifesto del Futurismo. In *Manifesti del Futurismo*. Abscondita.
- Marx, K. (2004). Felsefe Yazıları (A. Fethi, Çev.). İstanbul: Hil Yay.
- McGonigal, J. (2011). *Reality is broken: Why games make us better and how they can change the world*. Penguin Press.
- McKimm, J., Jollie, C., & Cantillon, P. (2003). Web based learning. *BMJ (Clinical Research Ed.)*, 326(7394), 870–873. doi:10.1136/bmj.326.7394.870 PMID:12702625
- Mead, M. (2000). *The Study of Culture at a Distance*. Berghahn.
- Meggs, P. B. (n.d.). *The digital revolution*. General format. <https://www.britannica.com/art/graphic-design/The-digital-revolution>
- Meneguelo, R. (1989). *PT A formação de um partido 1979-1982*. Rio de Janeiro: Paz e terra.
- Merlic, R. (2020). *The City As A House - a visual novel*. <https://rebeccamerlic.myportfolio.com/thecityasahouse>
- Meşhur Alkan, H. F., & Bala, A. H. (2015). Distance Learning in Architecture/Planning Education: A Case Study in the Faculty of Architecture at Selcuk University. In *Assessing the Role of Mobile Technologies and Distance Learning in Higher Education*. IGI Global.
- Meşhur, F. A., & Meşhur, M. Ç. (2007). *New Information and Communication Technologies (NICT's) and Changing Urban Areas Regarding Sustainability*. In *ENHR International Conference*, Rotterdam, The Netherlands.
- Metin, A. E., & Karaman, A., & Şaştım. (2017). Öğrencilerin uzaktan eğitim sistemine bakış açısı ve uzaktan eğitim İngilizce dersinin verimliliğinin değerlendirilmesi: Banaz Meslek Yüksekokulu. *Karabuk University Journal of Institute of Social Sciences*, 7(2), 640–652.
- Michels, R. (1982). *Sociologia dos partidos políticos*. Editora Universidade de Brasília.
- Mirzoeff, N. (2009). *An Introduction to Visual Culture*. Routledge.

- Mitchell, W. J. T. (1994). Imperial Landscape. In W. J. Mitchell (Ed.), *Landscape and Power*. University of Chicago Press.
- Moholy-Nagy, L. (1923). *The New Typography [1923] – Laszlo Moholy-Nagy*. General format. <https://designopendata.wordpress.com/portfolio/the-new-typography/>
- Moholy-Nagy, L. (1947). *The New Vision Fundamentals of Bauhaus Design, Painting, Sculpture and Architecture with Abstract of An Artist*. Dover Publications, Inc.
- Moholy-Nagy, L. (1969). *Painting, Photography, Film A Bauhaus Book*. Lund Humphries.
- Moravec, H. P. (2000). *Robot: mere machine to transcendent mind*. Oxford University Press on Demand.
- Moyer, J. (2014). Why Elon Musk Is Scared of Artificial Intelligence—and Terminators. *The Washington Post*.
- Mumford, L. (2017). Teknik ve Uygarlık (Ercan, Çev.). İstanbul: Açılım Kitap.
- Murphy, G. J., & Schmeink, L. (Eds.). (2017). *Cyberpunk and Visual Culture*. Routledge. doi:10.4324/9781315161372
- Newell, J. L. (2001). Italian Political Parties on the Web. *Press/Politics*, 6(4), 60-87.
- Nichols, M. (2016). Reading and studying on the screen: An overview of literature towards good learning design practice. *Journal of Open, Flexible, and Distance Learning*, 20(1), 33–43.
- Nietzsche, F. (2003). Şen Bilim (L. Özşar, Çev.). Bursa: Asa Kitabevi.
- Nietzsche, F. (2012). Putların Alacakaranlığı (M. Tüzel, Çev.). İstanbul: İş Bankası Kültür Yay.
- Nietzsche, F. (2013). Karışık Kanılar ve Özdeyişler (M. Tüzel, Çev.). İstanbul: İş Bankası Kültür Yay.
- Nietzsche, F. (2014). Gezgini ve Gölgesi (M. Tüzel, Çev.). İstanbul: İş Bankası Kültür Yay.
- Nolan, C. (2020). *Tenet*. Faber.
- Norris, P. (2000). *Preaching to the Convert? Pluralism, Participation, and Party Websites*. Retrieved from: <http://ksghome.harvard.edu/~pnorris/ACROBAT/Preaching.pdf>
- Nucera, S. (2014). *Corpi in-tessuti: Evoluzioni e mutamenti delle pratiche vestimentarie*. Aracne.
- O’Keefe, A. J. (2016). *Kurzweil Says Passion Projects Are the Best Way to Learn*. <https://singularityhub.com/2016/09/15/kurzweil-says-passion-projects-are-the-best-way-to-learn/>
- Olwig, K. R. (1996). Recovering the Substantive Nature of Landscape. *Annals of the Association of American Geographers*, 86(4), 630–653. doi:10.1111/j.1467-8306.1996.tb01770.x
- Omohundro, S. (2012). Rational artificial intelligence for the greater good. In *Singularity Hypotheses* (pp. 161–179). Springer. doi:10.1007/978-3-642-32560-1\_9
- Öner, B. D. (2003). *Bilgisayar Ağları*. Papatya Yayıncılık.

### **Compilation of References**

- Ontario Ministry of Education. (2013). *Paying attention to literacy*. Toronto: Ministry of Education. Queen's printer for Ontario. Retrieved from [http://www.edu.gov.on.ca/eng/literacynumeracy/paying\\_attention\\_literacy.pdf](http://www.edu.gov.on.ca/eng/literacynumeracy/paying_attention_literacy.pdf)
- Ontario Ministry of Education. (2015). *Capacity building for K-12. Literacy for a connected world-special edition #41*. Toronto: Ministry of Education. Queen's printer for Ontario. Retrieved from [http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS\\_LiteracyConnected.pdf](http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_LiteracyConnected.pdf)
- Paier, M. (2007). *Student support services in distance learning systems*. Vienna University of Technology Since.
- Panebianco, A. (2005). *Modelos de Partido: A organização e poder nos partidos políticos*. Martins Fontes.
- Papert, S. (1993). *The children's machine: Rethinking school in the age of the computer*. Basic Books.
- Pappas, M. S., & Bardis, P. D. (1965, October). Correspondence: On Book Reviews and Book Notes: Cybernetics: Definition, History, Etymology. *Social Science*, 40(4), 226–228.
- Paul, C. (2003). *Digital Art*. London: Thames & Hudson Ltd.
- Pedersen, K., & Saglie, J. (2005). New Technology in Ageing Parties: Internet Use in Danish and Norwegian. *Party Politics*, 11(3), 359–377. doi:10.1177/1354068805051782
- Permatasari, G. A., Ellianawati, E., & Hardyanto, W. (2019). Online web-based learning and assessment tool in vocational high school for physics. *Jurnal Penelitian & Pengembangan Pendidikan Fisika*, 5(1), 1–8. doi:10.21009/1.05101
- Pickering, W. S. F. (Ed.). (2002). *Durkheim and representations* (Vol. 22). Routledge.
- Porter, D. (1996). *Internet Culture*. Routledge.
- Potapov, A. (2018). Technological Singularity: What Do We Really Know? *Information (Basel)*, 9(4), 82. doi:10.3390/info9040082
- Potts, R. (1996). *Humanity's Descent: The consequences of Ecological Instability*. New York, W.: Morrow.
- Potts, R. (2002). *Vagabonding: An Uncommon Guide to the Art of Long-Term World Travel*. Villard Books.
- Pujol, J. M., Sangüesa, R., & Delgado, J. (2002). Extracting reputation in multi agent systems by means of social network topology. In *Proceedings of the first international joint conference on Autonomous agents and multiagent systems: part 1* (pp. 467-474). ACM. 10.1145/544741.544853
- Rancière, J. (2009). *The Emancipated Spectator* (G. Elliott, Trans.). Verso.
- Rav, Y. (2002). Perspectives on the history of the cybernetics movement: The path to current research through the contributions of Norbert Wiener, Warren McCulloch, and John von Neumann. *Cybernetics and Systems*, 33(8), 779–804. doi:10.1080/01969720290040830

- Reedy, C. (2017). *Kurzweil Claims That the Singularity Will Happen by 2045*. <https://futurism.com/kurzweil-claims-that-the-singularity-will-happen-by2045>
- Rheingold, H. (2007). *Smart mobs: The next social revolution*. Basic books.
- Ribeiro, P. F. (2008). *Dos Sindicados ao Governo: A organização nacional do PT de 1980 a 2005 (Unpublished doctoral dissertation)*. University of São Carlos. Retrieved from <http://pct.capes.gov.br/teses/2008/33001014026P2/TES.pdf>
- Rice, R. E., & Love, G. (1987). Electronic emotion: Socio-emotional content in a computer-mediated communication network. *Communication Research*, 14(1), 85–105. doi:10.1177/009365087014001005
- Richerson, P., & Boyd, R. (1995). *Not by genes alone: How culture transformed human evolution*. The University of Chicago Press.
- Rindova, V. P., Pollock, T. G., & Hayward, M. L. (2006). Celebrity firms: The social construction of Sabater, J., & Sierra, C. (2002). Reputation and social network analysis in multi-agent systems. *Academy of Management Review*, 31(1), 50–71. doi:10.5465/amr.2006.19379624
- Ripellino, A. M. (1991). *Praga Magica*. Einaudi.
- Riva, G. (2016). *Selfie: narcisismo e identità*. Il Mulino.
- Roaf, S. (2001). *Ecohouse-A Design Guide*. Architectural Press.
- Römmele, A. (2003). Political Parties, party communication and new information and communication Technologies. *Party Politics*, 9(1), 7–20. doi:10.1177/135406880391002
- Rotherham, A. J., & Willingham, D. T. (2010). 21st-Century” skills. *American Educator*, 17(1), 17–20.
- Rouet, J. F. (2006). *The skills of document use: From text comprehension to Web-based learning*. Psychology Press. doi:10.4324/9780203820094
- Rousseau, J. (2016). İnsanlar Arasındaki Eşitsizliğin Kaynağı (R. N. İleri, Çev.). İstanbul: Say Yay.
- Şahin, T. Y., & Yıldırım, S. (1999). Öğretim teknolojileri ve materyal geliştirme. Academic Press.
- Sandberg, A. (2013). An overview of models of technological singularity. *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*, 376-394.
- Sanford, K., & Madill, L. (2006). Resistance through video game play: It’s a boy thing. *Canadian Journal of Education*, 29(1), 287–306, 344–345. doi:10.2307/20054157
- Sanford, K., & Madill, L. (2007). Understanding the power of new literacies through video game play and design. *Canadian Journal of Education*, 30(2), 432–455. doi:10.2307/20466645
- Santaella, L. (2003). *Culturas e Artes do Pós-Humano*. São Paulo: PAULUS.

## Compilation of References

- Sarti, A. (1996). Utopia de Michels e a democracia partidária em perspectiva. *Revista Brasileira de Ciências Sociais*, 11(30), 129–138.
- Sax, L. (2005). *Why gender matters*. Doubleday.
- Schank, R. C. (1996). Goal-based scenarios: Case-based reasoning meets learning by doing. In Case-based reasoning: Experiences, lessons & future directions (pp. 295-604). AAAI Press/The MIT.
- Schweitzer, E.J. (2005). Election Campaigning Online: German Party Websites in the 2002 National Elections. *European Journal of Communication*, 20(3), 327–351. doi:10.1177/0267323105055261
- Scott, R. M. (2014). *Using digital technologies to support word study instruction*. Retrieved from [http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW\\_UsingDigitalTech.pdf](http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW_UsingDigitalTech.pdf)
- Shanahan, M. (2015). *The technological singularity*. MIT Press. doi:10.7551/mitpress/10058.001.0001
- Shanken, E. A. (2002). Art in the Information Age: Technology and Conceptual Art. *Leonardo*, 35(4), 433–438.
- Sherry, J. (2001). The effects of violent video games on aggression. A meta-analysis. *Human Communication Research*, 27(3), 409–431. doi:10.1093/hcr/27.3.409
- Siemens, G. (2008). *Learning and knowing in networks: Changing roles for educators and designers*. Paper 105: University of Georgia IT Forum. Retrieved at Dec 2020 from <http://itforum.coe.uga.edu/Paper105/Siemens.pdf>
- Silva, E. (2009). Measuring skills for 21st-century learning. *Phi Delta Kappan*, 90(9), 630–634. doi:10.1177/003172170909000905
- Simões, J., Redondo, R. D., & Vilas, A. F. (2013). A social gamification framework for a K-6 learning platform. *Computers in Human Behavior*, 29(2), 345–353. doi:10.1016/j.chb.2012.06.007
- Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2000). *Teaching & learning at a distance: Foundations of distance education*. Merrill.
- Sloat, A. (2013). *Amendment One (Excerpts)*. General format. <http://www.andrewsloat.com/work/1258/>
- Small, T. A. (2008). Equal Access, Unequal Success Major and Minor Canadian Parties on the Net. *Party Politics*, 14(1), 51–70. doi:10.1177/1354068807083823
- Soffer, O., Adovasio, J. M., & Hyland, D. C. (2000). The “Venus” Figurines: Textiles, Basketry, Gender, and Status in the Upper Paleolithic. *Current Anthropology*, 41(4), 511–537. doi:10.1086/317381
- Sommer, V. (1998). *Elogio della menzogna. Per una storia naturale dell'inganno*. Bollati Boringhieri.



- Spady, W. G. (1994). Outcome-Based Education: Critical Issues and Answers. American Association of School Administrators.
- Spradley, J. P. (1979). *The Ethnographic Interview*. The University of Michigan: Holt, Rinehart and Winston.
- Squire, K. D. (2013). Video game-based learning: An emerging paradigm for instruction. *Performance Improvement Quarterly*, 26(1), 101–130. doi:10.1002/piq.21139
- Steinkuehler, C. (2006). The mangle of play. *Journal of Adolescent & Adult Literacy*, 1(3), 199–213.
- Steinkuehler, C. (2010). Video games and digital literacies. *Journal of Adolescent & Adult Literacy*, 54(1), 61–63. doi:10.1598/JAAL.54.1.7
- Steinkuehler, C., Squire, K., & Barab, S. A. (2012). *Games, learning, and society: Learning and meaning in the digital age*. Cambridge University Press. doi:10.1017/CBO9781139031127
- Sternfels, R. (2018). *McKinsey Quarterly 2018 Number 1: Overview and full issue*. [https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our613\\_insights/mckinsey-quarterly-2018-number-1-overview-and-full-issue](https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our613_insights/mckinsey-quarterly-2018-number-1-overview-and-full-issue)
- Storrie, C. (2007). *The delirious museum: a journey from the Louvre to Las Vegas*. IB Tauris.
- Storr, W. (2018). *Selfie: how we became so self-obsessed and what it's doing to us*. The Overlook Press.
- Strandberg, K. (2008). Online Electoral Competition in Different Settings. A Comparative Meta-analysis of the Research on Party Websites and Online Electoral Competition. *Party Politics*, 14(2), 223–244. doi:10.1177/1354068807085891
- Ström, K. (1990). A Behavioral theory of competitive political parties. *American Journal of Political Science*, 34(2), 565–598. doi:10.2307/2111461
- Sturken, M., & Cartwright, L. (2009). *Practices of Looking: An Introduction to Visual Culture*. Oxford University Press.
- Taylor, T. (2012). Yapay Maymun (A. Muhaddisoğlu, Çev.). İstanbul: Alfa Bilim.
- The New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 60–93. doi:10.17763/haer.66.1.17370n67v22j160u
- The New London Group. (2000). A pedagogy of multiliteracies: Designing social futures. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures*. Routledge.
- Times Square Arts. (2013). *1st Amendment (excerpts)*. General format. <http://arts.timessquarenyc.org/times-square-arts/projects/midnight-moment/1st-amendment-excerpts/index.aspx>

## Compilation of References

- Times Square Arts. (2020). *Messages for the City*. General format. <http://arts.timessquarenyc.org/times-square-arts/projects/at-the-crossroads/messages-for-the-city/index.aspx#:~:text=Times%20Square%20Arts%2C%20Poster%20House,health%20care%20and%20essential%20workers>
- Toffler, A. (1980). *The Third Wave*. Academic Press.
- Tomasello, M. (1999). *The cultural origins of human cognition*. Harvard University Press.
- Tu, C. H. (2000). Strategies to Increase Interaction in Online Social Learning Environments. In *SITE 2000. Proceedings from the Society for Information Technology & Teacher Education International conference*. Norfolk, VA: AACE.
- Uğur, S., & Kurubacak, G. (2019). Artificial Intelligence to Super Artificial Intelligence, Cyber Culture to Transhumanist Culture: Change of the Age and Human. In *Handbook of Research on Learning in the Age of Transhumanism* (pp. 1-16). IGI Global.
- Uğur, S. (2019). Sosyal ağlar, dijital avatarlar ve teknolojik tekillik (editöre mektup). *AUAd*, 5(2), 4–8.
- Uğur, S., & Kurubacak, G. (2019). Artificial Intelligence to Super Artificial Intelligence, Cyber Culture to Transhumanist Culture: Change of the Age and Human. In I. S. Sisman-Ugur & G. Kurubacak (Eds.), *Handbook of Research on Learning in the Age of Transhumanism* (pp. 1–16). IGI Global. doi:10.4018/978-1-5225-8431-5.ch001
- UNESCO. (2002). *Forum On the Impact of Open Courseware for Higher Education in Developing Countries*. Retrieved at Dec 2020 from <http://conference.wcet.info/2007/presentations/converted/Open%20Educational%20Resources.pdf>
- Vaccari, C. (2008). Research Note: Italian Parties Websites in the 2006 Elections. *European Journal of Communication*, 23(1), 69–77. doi:10.1177/0267323107085839
- VanSledright, B. A. (2002). Fifth graders investigating history in the classroom: Results from a researcher-practitioner design experiment. *The Elementary School Journal*, 103(2), 131–160. doi:10.1086/499720
- Verga, G. (2011). Mastro Don Gesualdo. *The Bur*.
- Villalba, B. (2003). Moving toward and evolution in political mediation? French political parties and the new ICTs. In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 120-138). London: Routledge.
- Vinge, V. (1993, March). Technological singularity. In *VISION-21 Symposium sponsored by NASA Lewis Research Center and the Ohio Aerospace Institute* (pp. 30-31). Academic Press.
- Virtanen, M. A., Kääriäinen, M., Liikanen, E., & Haavisto, E. (2017). The comparison of students' satisfaction between ubiquitous and web-based learning environments. *Education and Information Technologies*, 22(5), 2565–2581. doi:10.1007/10639-016-9561-2

- Vygotsky, L. S. (1978). Readings on the development of children. In *Mind and Society* (2nd ed., pp.79-91). Cambridge, MA: Harvard University Press.
- Wagner, T. (2008). Even our “best” schools are failing to prepare students for 21<sup>st</sup> century careers and citizenship. *Educational Leadership*, 66(2), 20–25.
- Wallis, D. (2003). Democratisation, parties and the net: Mexico – model or aberration? In R. K. Gibson, R. P. Nixon, & S. J. Ward (Eds.), *Political Parties and the Internet. Net Gain?* (pp. 175-194). London: Routledge.
- Warneck, L. (2017). *We must make sure artificial intelligence doesn't increase inequality*. <https://www.dw.com/en/we-must-make-sure-artificial628-intelligence-doesnt-increase-inequality/a-41487111>
- Wellman, B., & Gulia, M. (1999). Virtual Communities as Communities. In M. A. Smith & P. Kollock (Eds.), *Communities in Cyberspace*. Routledge.
- Weng, X. (2016). *Sun Yuan and Peng Yu Can't Help Myself*. <https://www.guggenheim.org/artwork/34812>
- Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge University Press. doi:10.1017/CBO9780511803932
- Whitehead, A. N. (2019). Akılın İşlevi (K. Çelik, Çev.). Ankara: Fol Kitap.
- Wiener, N. (1985). *Cybernetics or Control and Communication in the Animal and the Machine*. The M.I.T. Press.
- Wiener, N. (1989). *The Human Use of Human Beings Cybernetics and Society*. Free Association Books.
- Wiener, N. (1989). *The Human Use Of Human Beings Cybernetics and Society*. Free Association Books.
- Wikipedia. (2018). *Technological Singularity*. [https://en.wikipedia.org/wiki/Technological\\_singularity](https://en.wikipedia.org/wiki/Technological_singularity)
- Winton, A. G. (2007). *The Bauhaus, 1919–1933*. General format. [https://www.metmuseum.org/toah/hd/bauh/hd\\_bauh.htm](https://www.metmuseum.org/toah/hd/bauh/hd_bauh.htm)
- Wolcott, H. F. (1987). On ethnographic intent. In *Interpretive Ethnography on Education: At Home and Abroad*. Hillsdale, NJ: Erlbaum.
- Woo, Y., & Reeves, T. C. (2007). Meaningful interaction in web-based learning: A social constructivist interpretation. *The Internet and Higher Education*, 10(1), 15–25. doi:10.1016/j.iheduc.2006.10.005
- Yalman, M. (2013). Eğitim fakültesi öğrencilerinin bilgisayar destekli uzaktan eğitim sistemi (moodle) memnuniyet düzeyleri. *Electronic Turkish Studies*, 8(8), 1395–1406. doi:10.7827/TurkishStudies.5357

### **Compilation of References**

- Yampolskiy, R. V. (2018). The singularity may be near. *Information*, 9(8), 190.
- Yang, X., Guo, X., & Yu, S. (2016). Student-generated content in college teaching: Content quality, behavioural pattern and learning performance. *Journal of Computer Assisted Learning*, 32(1), 1–15. doi:10.1111/jcal.12111
- Yawan, L., & Ying, L. (2013). A study on the use of open educational resources in China. *Open Education Resources: An Asian Perspective*, 21-39.
- Young, M. L. (2000). *İnternet Temel Kullanım Kılavuzu: Herkes İçin*. Alfa Yayıncılık.
- Yuan, L., & Powell, S. (2013). MOOCs and open education: Implications for higher education. Bolton, UK: JISC, Centre for Educational Technology & Interoperability Standards.
- Yuan, L., MacNeill, S., & Kraan, W. G. (2008). Open Educational Resources- opportunities and challenges for higher education. *Educational Cybernetics: Reports*. <https://www.oecd.org/edu/ceri/37351085.pdf>
- Yu, B., & Singh, M. P. (2000, July). A social mechanism of reputation management in electronic communities. In *International Workshop on Cooperative Information Agents* (pp. 154-165). Springer. 10.1007/978-3-540-45012-2\_15
- Zaiane, O. (2001). *Web usage mining for a better web-based learning environment*. Academic Press.
- Zerzan, J. (2000). Gelecekteki İlkel (C. Atila, Çev.). İstanbul: Kaos Yay.
- Zhang, D., Zhou, L., Briggs, R. O., & Nunamaker, J. F. Jr. (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information & Management*, 43(1), 15–27. doi:10.1016/j.im.2005.01.004

## About the Contributors

**Simber Atay** studied at The Ege University, Faculty of Fine Arts, Department of Cinema-TV (1976-1980). Her Undergraduate thesis: “Kemal Sunal Comedy”. (1980). Her Master thesis: “The Early Period of Photography and Ottoman Photographers” (1983); Her PhD Thesis: “Approaches in Turkish Film Critics” (1990). She is professor and head of photography department of Fine Arts Faculty at The Dokuz Eylül University. She lectures currently at The Dokuz Eylül University, Faculty of Fine Arts, Department of Photography and Department of Film Design; Faculty of Education, Department of Painting; Institute of Fine Arts. She lectured also, between 2006 – 2011 at Anadolu University, Faculty of Communication Sciences, Department of Journalism. Her research interests: Theories of Photography, Postmodern Cinema, Philosophy of Distance Education, E- Learning Culture, Cyber Aesthetics. Her Lessons: Theories Of Photography I-II-III-IV (undergraduate), Photography Techniques I-II (undergraduate), Cultural Memory (graduate), Cyber culture and Visual Arts (graduate), Digital Culture and History of Photography (graduate), Cultural Memory and Art of Cinema (PhD).

**Gülsün Kurubacak-Meriç** is a professor in Distance Education at the College of Open Education of Anadolu University. She undertook graduate studies at Anadolu University, Turkey (MA. Educational Technology) and the University of Cincinnati, USA (Ed.D. Curriculum & Instruction), and also has worked a post-doctoral fellow at the College of Education at New Mexico State University, USA (2001-2002). Dr. Meric earned her B.S. degree in Computer Engineering from the College of Informatics Technologies and Engineering of Ahmet Yesevi University in the year 2012-2013. She has over thirty-five years of experience in focusing on the egalitarian and ecological aspects of open and distance learning through new communication technologies. She had been the Group Coordinator of R&D and International Relations at the College of Open Education of Anadolu University between 2014-2018. She is the founder and editor-in-chief of AUAd as well as associated editor of TOJDE. She is also the founding member of Open and Distance

### ***About the Contributors***

Education Programs Accreditation Agency (AUDAK), and the head of the board of management member at the same accreditation agency.

**Serap Sisman-Uğur** graduated from an undergraduate program in “Computer Education and Instructional Technology” at Anadolu University and the master degree of the same program. Since 2002, she has been working as a lecturer at the Distance Education Department of Open Education Faculty. She works research and development activities&projects in fields such as e-learning content types, digital storytelling, animation, game-based learning, gamification, instructional design, crosscultural aspects, artificial intelligence, individual differences and human-computer interaction. She interested in technological singularity and transhumanism. She has been studying doctorate in Distance Learning. She was Social Media Coordinator of Anadolu University Open Education System, now she has been Social Media Coordinator and Vice of Corporate Communications Coordinator of Anadolu University.

\* \* \*

**Murat Aytaş** was born in Istanbul in 1981. After completing his primary, secondary and high school education in the same city, he graduated from Selçuk University Faculty of Communication Department of Radio, Television and Cinema in 2005, where he started his undergraduate education in 2000. After completing his master’s degree in 2010, he received his doctorate degree in 2016. Aytaş, who has been involved in many projects in the field of short films and documentaries since his university years, has documentary and short films that have received awards in various international and national festivals, photography exhibitions, various articles and essays on communication / cinema. Aytaş, who is still working as a lecturer in the Department of Radio-Television and Cinema at Selçuk University, Faculty of Communication. He has published a book titled “Images in Limbo: Identity, Belonging and Ontological Dilemmas in Cinema” which he edited with Ahmet Oktan in 2019.

**Francesco Paolo Campione** is docent of Museology and Art History at the University of Messina. During his career he often worked on the relationships between Art criticism and Aesthetics, particularly in the Renaissance and in the contemporary world. Fruit of this research is *La regola del Capriccio. Alle origini di una idea estetica* (2011), in which the Author investigates the origin of this concept in XVIth Century from different points of view (in Art, Literature, Medicine, Magic and Demonology). In 2015 he published *Discorsi sulla superficie. Estetica, arte, linguaggio della pelle*, where the Author studied the Skin as an artistic and aesthetic principle, from the representation of the Myth of Apollo and Marsyas to modern

tattoos. In 2017 he had a series of conferences at Paris “Diderot” University on the theme “Sky and Earth”. Among his other works, include: *In margine al ‘Disegno’ e alla teoria dell’arte di Anton Francesco Doni* (2010), *L’arte trapassata: Gunther von Hagens e la fine dell’esperienza estetica* (2012), *Joel-Peter Witkin: un’estetica del freak* (2013), *Lucia Pizzo Russo, Giovan Francesco Caroto e lo statuto del disegno infantile* (2015), *Il potere di un quadro: Caravaggio e il gusto mafioso* (2017), *Skin*, dictionary entry in *International Lexicon of Aesthetics* (2018).

**Cynthia H. W. Corrêa**, PhD in Social Communication from the Pontifical Catholic University of Rio Grande do Sul (PUC-RS). Associate Professor of Information and Communication Technologies at the School of Arts, Sciences and Humanities, University of São Paulo (USP), Brazil. The leader of the Humanitas Digitalis Research Group and a member of the Association of Internet Researchers (AoIR). Dr. Cynthia has coordinated research projects with an emphasis on digital culture, activism, online marketing, and technological innovation, involving students in undergraduate and graduate levels. ORCID: <https://orcid.org/0000-0002-9552-9235>.

**Tiago Cruz** is a communication designer, illustrator, digital media artist and teacher at University Institute of Maia – ISMAI-IU, Portugal. He is also a researcher at CIAC, Research Centre for Arts and Communication / University of Algarve. His research interests evolve around Design, Typography, Drawing, Visual Communication, Visual Semiotics and Digital Media-Art. He has a PhD on Digital Media-Art, context in which he has been exploring the Landscape concept through artistic production/research.

**Özge Nilay Erbalaban Gurbuz** completed her doctorate degree from Dokuz Eylül University, Faculty of Fine Arts, Department of Film Design, with her thesis about Work Ideology and Cinema. This thesis was published under the name of the “Right to Laziness in Cinema”. Currently, She works as a faculty member in in Cukurova University. She has papers in areas such as Critical Theory, Cinema and Culture, Ecology Studies and Cinema. She has made many presentations in Turkey and abroad.

**Adriane Figueirola Buarque de Holanda**, PhD in Communication from the Federal Fluminense University. Professor at the School of Higher Education in Advertising and Marketing (Escola Superior de Propaganda e Marketing - ESPM), Rio de Janeiro, Brazil. Researcher of the Laboratory of Creative Cities (ESPM) and a member of the Humanitas Digitalis Research Group (University of São Paulo). Research of interest: Internet and Politics.

### ***About the Contributors***

**Buket Kip Kayabaş** is an assistant professor in the Department of Distance Education at Anadolu University, Open Education Faculty where she has been a faculty member since 2001. She received her bachelor degree at Anadolu University Computer Education and Instructional Technology Department in 2004. Then in 2007 she received her master degree and in 2017 Ph.D. degree in Distance Education. She has been involved in many e-learning projects in different roles such as researcher, content developer and manager. Her research interests lie in the area of openness in education, lifelong learning, open and distance learning, open educational resources and massive open online courses.

**Serhat Koca** completed his undergraduate education in Selcuk University, Faculty of Communication, Department of Radio, Television and Cinema, and his master's degree in the Department of Radio, Television and Cinema of the Social Sciences Institute of the same university. He graduated doctorate education at Anadolu University, Institute of Social Sciences, Department of Cinema and TV. He is still continuing studies in the field of cinema and communication sciences. Koca published his book titled "Style in New Turkish Cinema in 2018". He is currently working at Anadolu University, Faculty of Communication Sciences, Department of Cinema and Television.

**Carol-Ann Lane** has a Ph.D. in curriculum, literacy, and applied linguistics. My Ph.D. thesis has a cross-disciplinary focus including science/innovative technology, narrative multiliteracies, gender theory, and social behavioral sciences. My ethnographic research presents multiple case studies exploring cultural meaning-making, rooted in the multiliteracies and social behaviors. My interests grow from my own experiences and dedication as a qualified Ontario elementary and secondary teacher with DPCDSB (8 years), in inclusive and special education settings. Additionally, my teaching experience over 4 years at UWO included nine pre-service Bachelor of Education and Graduate level courses.(face-to-face and online). I am deeply committed to examining the potential of secondary learning domains, such as video games, to in-school learning processes. Informing my research is the multiliteracies framework and learning by design theories (Cope & Kalantzis, 2009, 2016). My research has the potential to inform educators on ways boys navigate their selection of games, develop, adopt, and share their cultural knowledge through various modes of meanings. I have continuously mobilized my research over the past 8 years by attending numerous international conferences. Based on this, in 2020-21, I am the editor of an international book to be published in 2021-22, I am co-authoring a number of articles, I have published three chapters in 2019-20 (sole author) in global university based research handbooks (AERA), and over the past 4 years, 13 sole-authored peer-reviewed journal articles relating to digital literacy,



cyber culture, and alternative digital pathways to learning. I am currently working on a series of creative nonfiction books about multiliteracies, indigenous youth, linguistics, and gender equity.

**Sebastiano Nucera** is a Researcher and Assistant Professor of the Department of Cognitive Sciences, Psychology, Education and Cultural Studies at Messina University. He is honorary member of ACMS (Asociación Castellano-Manchega de Sociología) and he is member of other research networks of important international organizations (IEEE Society on Social Implications of Technology). His research activity has been concerned with the following topics: Wearable Technologies; Virtual and Augmented Reality; Evolution, changes and applications of modern communication technologies.

**Fernando Faria Paulino**, PhD in Anthropology (Visual Anthropology), Professor at University Institute of Maia, Dept. of Communication Sciences and Information Technologies (in the areas of visual communication, visual semiotics, documentary video, photography and hypermedia), researcher at CITEI - Research Center for Technologies and Intermedia Studies and researcher at CIAC Research Centre for Arts and Communication / University of Algarve. He is the Head Coordinator of the undergraduate degree of Multimedia Communication | University Institute of Maia, Coordinator of CLM Multimedia Lab Center ISMAI and Coordinator of the CCCom Communication Sciences Center | Multiplatform Audiovisual Studio ISMAI. Research interests: anthropology, visual anthropology and anthropology of visual communication; methodology, technology and epistemology of images and audiovisual culture; visual semiotics and visual culture; digital media, documentary film and documentary photography; interactive documentary, i-docs and web-docs; anthropology, cultural heritage, culture and tourism development. Author of several scientific articles, documentary filmmaker, as well as hypermedia products author, essentially based on anthropological content nature. Visiting professor of several international universities and jury member of international film festivals.

**Mirian Nogueira Tavares** is Associate Professor at the University of Algarve. With academic studies in Communication Sciences, Semiotics and Cultural Studies (Ph.D. in Communication and Contemporary Culture, from the Federal University of Bahia), she has developed research work and theoretical production in fields related to Cinema, Digital Arts, as well as artistic and aesthetic film studies. As a lecturer at the University of Algarve, she has participated in the development of the Visual Arts degree, the Master's programmes in Communication, Culture and Arts and Cultural Management and the PhD programmes in Communication, Culture and Arts and Digital Media and Arts. She is the current Coordinator of CIAC - <http://ciac.pt/index.php/pt/> (Arts and communication Research Centre), funded by FCT.

# Index

## A

Ars Electronica 14  
 art 1, 2, 3, 7-17, 35-43, 48-56, 81, 95, 97,  
 98, 154-157, 161-172, 179, 183, 189  
 artefact 35, 47, 48  
 artificial intelligence 18-34, 52, 145, 152,  
 166, 174, 184-187, 192-199  
 artwork 17, 35, 43-51  
 available designs 109, 114, 115, 118, 130

## C

chaos 1, 11, 12, 15, 99, 101  
 Collective Incentive 78  
 Community of practice 110, 130  
 cultural knowledge 109, 110, 125-133  
 Cultural meaning systems 130  
 cyber city 167, 169, 172  
 Cyber Colors 164, 172  
 cyber culture 6, 9, 34, 110, 129, 135-148,  
 152, 154, 160, 161, 166-172  
 cyber-aesthetics 154, 155, 161-164, 168,  
 172, 173  
 Cyber-art 1, 12, 15  
 cyber-culture 1, 79-83, 154, 155, 157,  
 161, 166  
 cyber-graphic design 154, 155, 166, 168,  
 173  
 Cyber-Hole 169, 173  
 cyberspace 2, 15, 49, 57-65, 81, 138, 152,  
 155, 161-169, 173

## D

daily life 10, 102, 136, 140-145, 203, 204  
 digital art 13, 14, 15, 39, 52, 54  
 digital nomads 79-88, 93

## E

E-Certificate Programs 152  
 eco-cities 79, 80, 88, 93  
 e-learning 32, 146, 147, 152, 204, 217, 219  
 equalization 55-67, 72, 73, 74, 78

## G

graphic design 154-173, 205

## I

installation 13, 35, 42-52, 160, 169  
 Internet 6, 9, 11, 15, 20, 49, 55-68, 72-83,  
 93, 94, 102, 106, 135-148, 152, 153,  
 155, 161, 162, 167, 203, 204, 206,  
 217, 218

## L

lifelong learning 135, 147, 152, 153, 215

## M

management 18-31, 56, 107, 108, 146,  
 206, 216, 219

management of open and distance learning  
19  
mass parties 66, 69, 78  
Massive Open Online Courses 18, 148, 153  
Matches of Cadres 78  
memory 1, 2, 7, 13, 14, 51, 96-102, 121,  
196, 199  
multiliteracies 109, 110, 114-122, 130-134

## **N**

Norbert Wiener 1, 2, 3, 15, 17  
normalization 55-65, 72, 73, 74, 78

## **O**

online learning 204, 205, 206, 217, 218  
Open and Distance Education 25, 135, 136,  
145, 151, 153  
open and distance learning 18-23, 27, 29,  
30, 135, 136, 145, 149  
open universities 18-31  
organizational structure 55, 59, 69, 74,  
75, 78

## **P**

policy 5, 55, 119, 171  
political parties 55-58, 63-78  
political parties' websites 55, 56, 68, 73  
Portable buildings 92, 93

## **R**

real virtuality 155, 166, 173  
reputation 26, 30, 96, 103-108

## **S**

Selective Incentive 71, 78  
Semiotics 35, 37, 39, 53  
Social Semiotics 35, 37, 53  
spiritual guidance 202, 203, 207-216  
student satisfaction 202, 203, 207, 215, 217  
Sustainable issues 91

## **T**

technological singularity 18-21, 25-34  
technologies 6, 11, 14, 21-30, 38, 48, 64,  
66, 77, 79, 81, 86, 89, 90, 94, 100-105,  
109, 118, 119, 133-167, 171, 172, 183,  
203, 204, 216, 218  
TV series 96, 100, 106

## **U**

ubiquitous experiences 96

## **V**

virtual communities 82, 137-141, 145, 152  
Visual Culture 35-39, 53, 54, 162, 164,  
166, 172

## **W**

Web Based Distance Education 202, 203,  
204