PROCEEDINGS OF DRS

27-30 JUNE 2016

VOLUME 3

50th Anniversary Conference Brighton, UK

Design + Research + Society
Future-Focused Thinking

EDITED BY:
PETER LLOYD
ERIK BOHEMIA

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Proceedings of DRS 2016

Design + Research + Society Future–Focused Thinking

50th Anniversary International Conference Brighton, UK, 27–30 June 2016

Volume 3

Editors
Peter Lloyd and Erik Bohemia

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Proceedings of DRS

2016 International Conference 28–30 June 2016, Brighton, UK www.drs2016.org Volumes 3 of 10

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Proceedings of DRS 2016 International Conference: Future-Focused Thinking

ISSN 2398-3132

Published by the Design Research Society Loughborough University, London 3 Lesney Avenue, The Broadcast Centre, Here East London, E15 2GZ United Kingdom

Design Research Society Secretariat email: admin@designresearchsociety.org website: www.designresearchsociety.org

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The narratives and the supports. Remediating Design Culture in the translation of transmedia artefacts.

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DOI: 10.21606/drs.2016.272

Abstract: Media culture has fostered over the last century an incessant proliferation of ideas, models, and artefacts that have defined specific milestones and precise references for designers, researchers, and professionals in several disciplines. Since the mid-'80s, an increasing transdisciplinarity, the ability to experiment more effective techniques, the widespread diffusion of specific tools, and a worldwide network to interconnect emerging knowledge and skills redefined the contents production and consumption.

The growth of social-driven patterns based on bottom-up collaboration, interchanging format of distribution and consumption, connective intelligence, and sharing economy fostered the rise of participative audiences and the emergence of transmedia narratives (Jenkins et al. 2006).

The paradigm shift of the realism of the forms (Flusser, 1997), the growth of crowdsourced and crowdfunded business models (Surowiecki, 2004), accessibility as a protocol not only for consumption but for development (Steve, 2004; Lessig 2004), the birth of new Software Cultures (Manovich, 2010), are some of the passages towards the definition of hybrid artefacts, collectively built and sometimes opened to narrow but very (re)active audiences.

Transmedia artefacts are among the first concrete results of this change of perspective. Over the past 50 years it has been possible to witness the birth of such transmedia experiments and artefacts (The Magus by John Fowles, 1965, and Ong's Hat, 1980). From subsequent projects (like Inanimate Alice, 2005, and The Cosmonaut, 2013), the designer's work becomes a process of hybrid and interconnected teams.

This paper aims at detecting the grassroots and the role of design culture in the definition of transmedia artefacts, showing how designers' skills move towards a translation of the narrative elements not only in terms of



adaptation from one support to another, or from one idiom to a new one, but mainly setting up crossed strategies of cultural "remediation" (Bolter & Grusin, 2000).

Keywords: Transmedia, Design Culture, Translation, New Audiences.

Design Culture from Convergence to Transmedia Artefacts

Since the mid-'80s, an increasing transdisciplinarity, the ability to experiment more effective techniques, the widespread diffusion of specific tools, and a worldwide network to interconnect emerging knowledge and skills have redefined the production and consumption of contents. In this sense, Media Culture has fostered over the last decades an incessant proliferation of ideas, models, and artefacts that have defined specific milestones and precise references for designers, researchers, and professionals in several disciplines. Internet and the increasing permeation and use of traditional media and new devices have defined an emerging design culture based on an epistemological sphere of participation, production, and transmission of knowledge and culture.

During the 1990s critics made radical claims for a narrative revolution in the light of hypertext, gaming, MUDs, and MOOs (Douglas, 1992; Landow, 1992; Aarseth, 1997; Murray, 1997; Hayles, 2001), stating that new audiences would find different possibilities to be part of storytelling experiences and co-authoring them. New terms were introduced such as *wreader* (Landow, 1992; Landow, 1997; Rau, 2000) and *interactor* (Douglas, 1996; Murray, 1997).

The rhetoric of narrative artefact moved therefore from a semiotically-measured perspective (De Saussure, 1916; Hjelmslev, 1969) to a deconstruction of contents and channels that were able to give expression to new products (Derrida, 1974; Landow, 1994; Bolter & Grusin, 1999). The paradigm shift of the realism of the forms (Flusser, 1997), the growth of crowdsourced and crowdfunded business models (Surowiecki, 2004), accessibility as a protocol not only for consumption but for development (Steve, 2004; Lessig, 2004 and the European research lines ICT-02.07.2007), the birth of new Software Cultures (Manovich, 2010), are some of the passages towards the definition of hybrid artefacts, collectively built and sometimes opened to narrow but very (re)active audiences.

In this scenario, the growth of social-driven patterns based on bottom-up collaboration, interchanging format of distribution and consumption, connective intelligence, and sharing economy fostered the rise of participative audiences and the emergence of what will assume the name of "convergence culture" (Jenkins et al. 2006).

The idea of convergence can be resumed, according to Jenkins, to the "flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behaviour of media audiences who would go almost anywhere in search of the kinds of entertainment experiences they wanted" (2006). The possibility for "consumers to archive, annotate, appropriate and recirculate media content in powerful new ways" (Jenkins, 2004, p.33) redefined the business models and the project management for media

productions. If, on one side, the total freedom offered through digital technologies and cultural assets defines new possibilities for micro-productions and cross-networked actions, on the other the big challenge is the Media Convergence (Jenkins, 2004, p.37) between these consumer-driven processes and the top-down corporate and market-driven practices.

According to this phenomenon, many aspects of Design Culture in relation to media productions and communication artefacts faced the change and started to reconceive the necessary patterns to favour the merging of producers and consumers, transforming them into participants who are "expected to interact with each other according to a new set of rules which none of us fully understands" (Jenkins, 2006, par. 3).

Transmedia artefacts are one of the first concrete results of this change of perspective. We intend with Transmedia Artefacts all the productions that can be created, distributed, and consumed across multiple platforms and formats, in order to expand the participative audiences as well as the narrative itself. Over the past 50 years it has been possible to witness the birth of early stage transmedia experiments and artefacts, starting from metafictions like The Magus by John Fowles, 1965, and collaborative fictions like Ong's Hat, 1980, among the others, whose innovation consisted in the effort of individual participants / authors / readers to set up the narrative. From successive projects (like Inanimate Alice, 2005 and The Cosmonaut, 2013), the designer's work becomes a process of hybridization and interconnection between the project patterns and the limitless continuum with the participative publics. According to the contents, hybridization and deep remixability (Manovich, 2010) are not the only aspects of a transmedia production, but they are the basis of an emergent translation model that must confront the deep architectures of the platforms, the social dimension of the audiences, the different layers of a narrative, and the participatory production assets.

Transmedia design: the remediation of top down and bottom up philosophies

In the twentieth century Western art and, in part, literature, have promoted an aesthetics of play and self-reflexivity creating the ideal of an active participation of the receiver/audience - reader, spectator, and user - in the production of narrative artefacts and through different supports. According to this cultural stream, and as we have already underlined, in the last years both technologies (platforms, software, bandwidth, media, and distribution channels) and audiences' assets (participation, crowdfunding, crowdsourcing) played an important role in the definition of unstructured and self-generated narrative artefacts. Independent producers (youtubers, bloggers, artists, programmers, hackers, etc.) emerged spontaneously and nowadays we can count on a wide variety of communication artefacts (videos, fanart, ezines, books, music, apps, etc.) easily fitting into the broad area of transmedia productions.

The philosophy of a total independence (from the market capitalization) favoured audience engagement and the audience engagement itself fed the idea of a possible alternative

market value: "engagement-based models see the audience as a collective of active agents whose labor may generate alternative forms of market value" (Jenkins et al., 2013, p.116).

In this sense what we can experience in the creation of transmedia artefacts is a remediation of a cultural production into another, from the point of view of the contents, from the definition of its "spreadability" across different supports (claiming Jenkins, 2014), from the aspect of market strategies. It is exactly this last point, giving recognition to market assets, that can determine the balancing of the project toward a top-down or a bottom-up asset (defining, consequently, the possibility of other opportunities). This tendency is very central in the adoption of strategies for the project, starting from the constitution of the team, to arrive at the definition of the plans and the policies to adopt in designing the final artefact(s).

What emerge in this remediation of two different models, where we can define "remediation" as the dynamic and selective translation of a model into another and vice versa, is a loop that continuously alternates the models by means of the convergence culture assets.



Figure 1 The loop of convergence culture determined by the continuum between the top-down participation and the bottom-up market strategies in a transmedia production

As we can see in fig. 1, the loop of convergence culture in a transmedia production is constituted by two interconnected spheres (bottom-up and top-down models) and it has on the opposite side two different market models: Sharing Economy and traditional Big Market investors. In the model of Big Investors, the audiences (Target Audiences) are merely the target of the capital strategists (defined in accordance with the mainstream artefacts), while in the opposite model, the audiences (Collaborative Participation) are the principal "makers", the community in charge to decide the funding strategies and the related sustainable actions. If, on one side, Big Investors shape the audiences and the principal trends by the power of their market position, on the other side the participative communities can move from some of those streams (and often the communities rise on the

streams of Big Investors) to restart a new articulation of contents production and consumption, defining sharing economy activity and setting up the most appropriate production.

In a transmedia production this model starts to introduce a first concept of translation in terms of migration among different paradigms. The scheme does not pretend to illustrate a monolithic passage between the different steps, but it shows the principal tendencies of the fluxes that can determine a transmedia production and its life cycle.

Figure 1 also alludes to another important consideration: what has changed is not only the support but the processes behind the production, the reproduction and the content consumption.

What has emerged is a new mindset, an amniotic network constituted by the everyday environment, in which people define their sets of mnesic traces, personal experiences, unconscious patterns, and social relations. All of this absorbs the external environment by a process of mimesis that represents the osmotic layer dealing with different narrative "peers": Family, Friends, Colleagues/Employers, Neighbours, Accidental/Desired connections, Networked Identities. Narrative concepts such as plot, event structures, temporality have been questioned; as well as questions about how stories are produced and experienced have been debated in relation to new elements like interactivity, immersion, and agency. The impact of media and nowadays of social media on narratology and storytelling has also redefined the meaning of readership and authorship: authors have become an icon of themselves, a collective-minded producer self-perceived by their narrative experiences (de Kerckhove, 2003).

For these reasons, in a transmedia production what is necessary is to find elements grounded in the (narrow) community of the participants and in the processes of consumption/interaction to adapt any further experience (fanzine, collector's items, new story plots, etc.) based on the principal core of the artefact (a movie, a book, an event, etc.) in terms of development, content editing, and overall management, primarily as a social translation.

the spread of all forms of media relies as much (or more) on their circulation by the audience as it does on their commercial distribution, that spreadability is determined by processes of social appraisal rather than technical or creative wizardry and on the active participation of engaged audiences. (Jenkins, et al, 2013, p.196)

In fact, in the Transmedia artefacts production and in the collective/connective consumptions of transmedia contents, the articulation of complex social patterns has redefined the possibilities of expression, participation, and definition of narrative lines.

Transmedia Design Translation.

If the definition of a transmedia artefact can often depend on the relation between participative public and traditional investors, it seems that the figure of designer is usually

devoted to mediate the needs of audiences in a capital-driven project, or to start up a reasonably independent experience with a narrow team of people involved. Apart from these two possible cases and from the wide variety of initiatives that grows on variants of these cases, when we speak about transmedia productions, we can consider the design culture under a different perspective. In accordance with Jenkins for example, the figure of (content) creators can be resumed according to his definition:

"Content creators do not work magic, nor are they powerless. Creators don't design viruses, nor do they simply wait for something to happen. Successful creators understand the strategic and technical aspects they need to master in order to create content more likely to spread, and they think about what motivates participants to share information and to build relationships with the communities shaping its circulation." (Jenkins, 2013, p.196)

Moreover, Jenkins recalls also the human-driven content mining that allows having a successful production:

"success in creating material people want to spread requires some attention to the patterns and motivations of media circulation, both of which are driven by the meanings people can draw from content. After all, humans rarely engage in meaningless activities. Sometimes, it may not be readily apparent why people are doing what they are doing, but striving to understand a person's or community's motivation and interest is key for creating texts more likely to spread."

(Jenkins, 2013, p.198)

Close to Jenkins, but on another layer of analysis, Castells remarks on the diversity, the autonomy, and the production of meaning in the public mind as a turning point of our networked digital era:

"we are indeed in a new communication realm, and ultimately in a new medium, whose backbone is made of computer networks, whose language is digital, and whose senders are globally distributed and globally interactive. True, the medium, even a medium as revolutionary as this one, does not determine the content and effect of its messages. But it makes possible the unlimited diversity and the largely autonomous origin of most of the communication flows that construct, and reconstruct every second the global and local production of meaning in the public mind."

(Castells, 2007, p.248)

Positions such as those of Jenkins and Castells were already present in the early research about Media Literacy (Share, 2002; Jenkins, 2005; Hobbs, 2006), and in many different contributions from Translation Studies (Munday, 2009; Saldanha and O'Brien, 2013; Pérez-González, 2014; House, 2014) clearly underlining the cross-fertilization between the support of communication, the cultural codes of the different audiences, and the human environmental variables.

When we speak about a transmedia artefact we can intend a summa of different products related one to another, i.e The Johnny Cash Project

(http://www.thejohnnycashproject.com/, last visited February 22, 2016), the movie Cosmonaut (facebook page at https://www.facebook.com/cosmonauta.pelicula, last visited

February 22, 2016), or a specific narrative of the product, i.e. my specific clip and music created inside the Johnny Cash Project (http://www.thejohnnycashproject.com/-#/explore/TopRated, last visited February 22, 2016), the Poetry Book of Cosmonaut (http://www.frostclick.com/wp/index.php/2010/10/03/poetics-for-cosmonauts-by-henry-pierrot/, last visited February 22, 2016). On one side we have to carefully consider the necessary dimension of interpolation among supports, cultural codes, and human environmental variables, on the other side, we have to reflect on the narrative(s) that will be developed and remediated. In this sense, in order to define the directions of the productions, we can summarize at least three different design lines conceiving a transmedia artefact:

- 1. A *new* transmedia narrative, *original*, with *no previous streams* from other artefacts, developed to offer multiple possibilities across different supports and other narratives.
- 2. A *remediated* transmedia narrative, inspired, derived or rewritten *from previous streams*, offering multiple possibilities across different supports and other narratives.
- 3. A remediated transmedia narrative, inspired, newly created or based upon a part of a previous narrative item (the environment, one character, an event, an object, a claim, etc.) offering multiple possibilities across different supports and other narratives (for example, building a connective transmedia historical record of an urban community based on the names given to its streets).

Apart from the (not so) obvious destination of the artefact, that is to say offering multiple possibilities across different supports and narratives, the definition of the entire transmedia artefact necessarily needs an operational framework of translation to face the complexity of the storylines (products, events, new plots, etc.). In these artefacts, one can generally define the process of translation mostly in terms of one specific activity: adaptation, reduction, language and graphic interpretation, software porting, etc. The deconstruction of a project in single actions meant to fasten the different phases of production is recommended and acceptable, but an overall vision of the project must not only summarize the single activities, but also define a protocol of translation based on the different layers that constitute the essential set of the transmedia artefact.

In order to define a flexible matrix for the translation of transmedia artefacts, this ongoing research proposes a combined qualitative and quantitative research method. It can be argued that traditional criteria of analysis cannot be applied in discussing transmedia artefacts, that digital products require a new methodological approach. C. Hayles insists on the necessity of studying the specific materiality of the support or better she proposes the MSA – Media-Specific Analysis (Hayles, 2004).

The method is organized around two deeply interconnected approaches: a) desk analysis of the narrative contexts and supports and b) (online) action theoretical framework of analysis

1. The desk analysis of the narrative contexts and supports aims at defining the best practices, cases, specific solutions, and similar artefacts to understand and to

- position the transmedia concept or to move from the emerged patterns to design a first draft of the project. This analysis tries to establish typologies of artefacts and typologies of media/channels/supports; consequently, the theoretical models we will apply to analyze the cases spread across Semiotics, Translation Studies, Literary Theory (rhetoric) and aspects of New Media Literacy, Poststructuralist models of text analysis.
- 2. The (online) action theoretical framework of analysis (reinterpreting Houkes, Vermaas, Dorst, Vries) is a set of online activities based on the case studies to detect the relations among the behavior/engagement of the audiences, the possibility offered by different supports, the limits and the constrains of the environment, and the exiting layers of different storylines. This phase moves from a multimodal approach (Kress 2004) to map out the transmedia processes and to recognize recurring/emerging patterns in the translation from previous artifacts to new ones (remediation).

The application of such cross-methodology offers an analytical script to map out possibilities, needs, limits, milestones, and blind spots of the different levels of the translation process for transmedia artifacts. In figure 2 it is possible to see a sample of Transmedia Design Translation Chart, as a representational analysis of a specific case (The Cosmonaut), in which it is possible to summarize graphically the different patterns and the necessary phases for the design of a transmedia product.

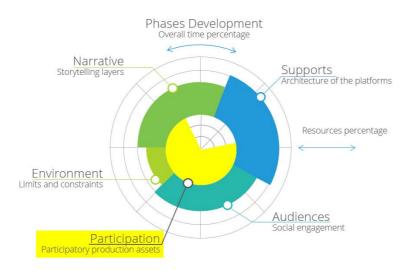


Figure 2 Transmedia Design Translation Chart. The figure describes a sample of the different phases and their relation with the overall resources involved. The case illustrated is The Cosmonaut.

This Chart results help to compare and evaluate different case studies. Every case is mapped out showing the principal phases that constitute the overall architecture of the transmedia artefact (audiences, supports, contents, and environment), the participatory assets and the resources adopted to define the final product. The different mix of the phases, resources, and assets traces the profile of potentialities, weaknesses and types of investment according to the product created. The comparison with the data retrieved from the action theoretical framework and, partially, from desk analysis, offers a rich portrait of every case. The

comparison between several cases, with different aims and different tendencies related to the phases, defines the principal guidelines and the more recent patterns to translate a narrative into another one, intending with the term "narrative" the set of the possible plots, forks, stories, apps, multimedia products, etc. What can be helpful in case of low level engagement, what platforms can improve meet-up sessions, what storyline to create a plot of a political fiction, etc. are a few questions related to the possibility of the Charts to offer flexible translation guidelines for technical elements, specific behaviour, narrative contexts, and more specificities in transmedia environments. The research and the analysis are still ongoing, but the final goal for the Transmedia Design Translation Chart is to improve the comprehension and the trends of transmedia phenomena, as unique artefacts as well as micro-universes of different cultural assets.

A case study: the Cosmonaut.

One of the aim of the research is to analyse and to classify several case studies according to specific drivers and to consider the different modalities of translation between the core narrative and the derivative artefacts, in their transmedia sphere of engagement and consumption. One of the most interesting case studies is the example of the transmedia movie *The Cosmonaut*.

The Cosmonaut is a project started in Spain (Collettivo Riot Cinema) in 2012-2013. It is a crowdfunded initiative (as a regular production and a movie investment able to raise more than 400.000 euro) and a crowdsourced experience (the original script was available online in order to recompose the storytelling and the users were able to download, lend, re-cut or use the film footage in any way they wished). The objectives of the project are to reach a high level of creative freedom (i.e. to tell a story without being limited by the format), to offer to the spectators a real choice (audience engagement), to obtain direct monetization (by means of different format) and to be opened to brand involvement. What is more interesting is the wide variety of narratives, experiences, communication artefacts derived from the original script and translated into autonomous and different stories, on multiple supports and channels, in a perfect transmedia environment. The transmedia universe of the Cosmonaut can be resumed as in figure 3:

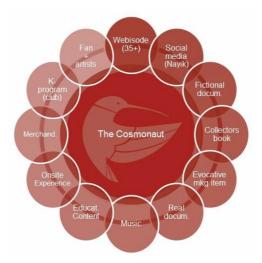


Figure 3 The visual representation of the transmedia world behind the Cosmonaut.

Figure 3 allows one to resume the "satellite" narratives in the following lines and to directly define the narrative categories adopted for a clearly heterogeneous transmedia world:

- Webisodes (35+) expand parts of the universe of the The Cosmonaut that are less evident in the film, by presenting secondary plot lines... Webisodes are short episodes distributed only online, not necessarily strictly related to the main narrative, and they allow for creating different spheres of knowledge, relation, and engagement.
- Social media (Nayik) through the use of 13 different Facebook profiles, with 7
 main characters and 6 secondary ones, they create a fiction that will interact
 with the personal profiles of the fans who wish to join in. The use of social
 software allows for creating a second reality in a fictionalized environment.
- Fictionalized documentary (Hummingbird) about a group of filmmakers who
 visit the set of "The Cosmonaut" in former USSR territories. They will interview
 people and follow ambiguous clues which will bring them closer to the elusive
 truth. This artefact, completely standalone from the main narrative, can
 expand the audiences and the narratives of the production.
- Collectors book Evocative marketing item, Memento Album, Poetry for Cosmonauts
- Real documentary. The possibility to change the asset in the principal line of communication is an interesting example of convergent narrative with different audiences.
- Music soundtrack, album inspired by the plot, transmedia sessions.
- Educational Content special pack, workbook on indie cinema, different cuts.
- Onsite Experiences theater + party, premiere.
- Merchandising.
- K-program (club).
- Fan+artists.

From the case study it is possible to retrieve a series of different experiences in several formats and oriented towards multiple audiences. All the narratives emerged from the principal core (we can say the movie "The Cosmonaut" in this case) can determine a simplified scheme of possible translations, according to the Transmedia Translation Design Chart presented in Figure 2.

This case is a very rich example of different level of translation from an original core (the Cosmonaut as a film) to other transmedia products. The possibility to plan, organize, maintain, and realize different immersive and participative experiences remediating just a few aspects of an original narrative it is an interesting challenge in terms of participative design and, in the case of the Cosmonaut, the result has been excellent.

Conclusions

The promises of transmedia narratives are today one of the most important and fertile segments of cultural production. The possibility of expression opened to everybody is not limited to those who have specific skills; the different markets move towards a form of convergence that transform audiences from passive spectators to active prosumers; the constant innovation of media, that become supports for sharing and exchanging: all these elements are milestones of a social and industrial revolution that the design culture is gradually practising more and more.

The continued growth of these artefacts and the need to find innovative production spaces have allowed for spreading the transmedia model, also if sometimes without rationalizing tools and guidelines for analysis, transformation, and remediation.

The proposal of the research presented in these pages wants to be a contribution towards a model of translation for transmedia artefacts.

Entrusting the designer with a task of research and development supported by powerful tools and scalable methods, and moving from a narrative form, that is mainstream, or isolated track, or new brief, the challenge is to ask the designer to build a project to translate all patterns examined over the research path, and turn them into a final artefact that can offer maximum responsiveness to the proposed objectives.

This task requires a change of perspective about some traditional models of content translation, media translation, and editorial translation about communication artefacts, but it allows for moving toward a frontier that is fundamentally changing the rules of the social, economic, and cultural consumption and production.

According to McLuhan, everybody can be an artist in the electric age (McLuhan, 1964) but even an artist must have pretty good consciousness of the world around to create something unique.

References

Flusser, V. (1997). Medienkultur. Frankfurt am Main: Fischer Taschenbuch Verlag GmbH.

Grusin, R. and Bolter, J. D. (2000). Remediation. Cambridge, MA: The MIT Press.

Hayles, N. K.,

- Manovich, L., Tsivian, Y., Zimmermann, P. R., Weinbren, G., Bassett, C., Anderson, S. F. et al. (2014). Transmedia Frictions: The Digital, the Arts, and the Humanities. Edited by Marsha Kinder and Tara McPherson. Berkeley: University of California Press.
- Hobbs, R. (2006) Multiple visions of multimedia literacy: Emerging areas of synthesis. In Handbook of literacy and technology, Volume II. International Reading Association. Michael McKenna, Linda Labbo, Ron Kieffer and David Reinking, Editors. Mahwah: Lawrence Erlbaum Associates
- Houkes, W.N., Vermaas, P.E., Dorst, C.H. & Vries, de, M.J. (2002). Design and use as plans: an action-theoretical account. In Design Studies, 23(3), 303-320.
- Jenkins, H. (2008). Convergence Culture: Where Old and New Media Collide. Revised edition. New York, NY: NYU Press.
- Jenkins, H., Purushotma, P., Weigel, M., Clinton, K. and Robison, A. J. (2009). Confronting the Challenges of Participatory Culture: Media Education for the 21st Century. Cambridge, MA: The MIT Press.
- Lessig, L. (2004). Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity. Second Printing edition. New York, NY: Penguin.
- Manovich, L. (2013). Software Takes Command. International Texts in Critical Media Aesthetics edition. New York, NY: Bloomsbury Academic.
- Pérez-González, L. (2014). Translation and New(s) Media: Participatory Subtitling Practices in Networked Mediascapes. London: Palgrave.
- Share, J. (2002). Media literacy is elementary. New York, NY: Peter Lang Publishing.
- Surowiecki, James (2004). The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies. New York, NY: Doubleday.
- Weber, Steven (2004). The Success of Open Source. Cambridge, MA: Harvard University Press.

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