

AperTO - Archivio Istituzionale Open Access dell'Università di Torino

## Constructing the Biography of the Web: An Examination of the Narratives and Myths around the Web's History

### This is the author's manuscript

*Original Citation:*

*Availability:*

This version is available <http://hdl.handle.net/2318/1770557> since 2021-02-01T14:32:26Z

*Publisher:*

Peter Lang

*Published version:*

DOI:10.3726/b11492

*Terms of use:*

Open Access

Anyone can freely access the full text of works made available as "Open Access". Works made available under a Creative Commons license can be used according to the terms and conditions of said license. Use of all other works requires consent of the right holder (author or publisher) if not exempted from copyright protection by the applicable law.

(Article begins on next page)

# Constructing THE biographies OF THE web

An examination of the narratives and myths around the web's history

SIMONE NATALE AND PAOLO BORY

---

## INTRODUCTION

Rather than being confined to the nebulous realm of the imagination, the way we understand and talk about a new medium of communication has important consequences at a cultural, social, political, and legal level. As pointed out by Susan Crawford (2007, p. 467), what we mean when we refer to particular media technologies helps determine “which actors’ voices will be listened to, what arguments will be respected, and which goals will be considered legitimate.” Studying the social and cultural imaginaries of the information age, therefore, not only provides an entry point towards contemporary cultures; it also helps to comprehend how and why particular institutional frameworks are erected around given technologies, and certain practices of governance are preferred over others (Mansell, 2012; Schulte, 2013). In this context, the question of which mechanisms contribute to the formation of the imaginary becomes crucial to the study of digital culture, as well as to attempts of unveiling the dynamics of media change.

Scholars in literature and critical theory have shown that one of the key ways through which we form our images, opinions, and understandings about reality is storytelling (Cavarero, 2000; Olney, 1972). Throughout our everyday life, narratives allow us to make sense of events and situations, representing a crucial mediator between our experiences and our worldviews. Yet, in the study of the media imaginary, few attempts have been made to disclose the role of narrative

and storytelling in the formation of our ideas and views about media. Employing a theoretical approach called “biographies of media” (Natale, 2016), which looks at how the histories of particular media are built up through recurring narrative patterns, this chapter uncovers the particular imaginary hidden behind the story of the emergence and development of the World Wide Web. It argues that the history of the web has become a key context in which cultural, political, and ideological representations of the medium are constructed and negotiated within the public sphere. More broadly, the chapter aims to show that the stories we tell about technological systems such as the web are essentially similar to the stories we tell about people—in other words, to biographies in the strictest sense of the word. Drawing on literature exploring the archetypal structure of narratives and myths, we demonstrate that both biographical writings about the web’s inventor, Tim Berners-Lee, as well as the “biographies” of the web follow quite closely the trajectory of the hero’s journey, as sketched by Joseph Campbell (2004). Ultimately, this narrative pattern provides a familiar framework through which the story of the emergence of the web has come to make sense to us, contributing to the formation of particular claims and views about this medium’s role in our societies and everyday life.

Studying the biographies of the web is important for three main reasons. First, it helps to comprehend why certain ways to imagine and represent this medium have been privileged over others, and how they influence its use and insertion within social environments. Second, since narratives are created, recounted and animated by particular individuals and groups, it helps to unveil how and why different agents invest in particular interpretations of the medium’s role and impact. Technologies function not only through their material substance, but also according to the narratives they generate or into which they are adjusted. As Schulte (2013) aptly demonstrated by focusing on the case of the internet, policies are implemented also in relation and as a reaction to the emergence of particular narratives about new media. As a consequence, studying the biographies of the web allows to reconstruct the relationship between the level of the discourse and the level of power. Third, it provides insight into an aspect of the web’s history which is relatively stable in time. One of the characteristics of biographies of media, in fact, is their persistence across time. The most influential anecdotes and stories become closely associated to the life cycle of a medium, circulating and being renovated in different places and times. This contrasts sharply with the inherent ephemerality of webpages, to which historians of the web have to respond by adopting particular approaches and methods (Brügger, 2013). Thus, looking at the biographies of the web reminds us that the fluctuating character of web contents is complementary to technical and discursive elements that are constant and far-reaching over longer, if still limited, periods of time.

## BIOGRAPHIES OF MEDIA: A THEORETICAL APPROACH

Social anthropologists such as Armin Appadurai (1986) and Alfred Gell (1998) have pointed out that not only humans, but artifacts as well can be regarded as social agents. In Gell's words, "social agency can be exercised relative to 'things' and social agency can be exercised by 'things' (and also animals)." This also applies to media, which are depicted as agents in numerous social situations (Reeves & Nass, 1996). Media have social lives, and their meaning is continually negotiated through a process that informs technological change and shapes how they are inserted and domesticated within domestic and professional environment (Silverstone & Haddon, 1996). An important role in this negotiation process is played by the different narratives and anecdotes through which histories of different media are recounted in the public sphere, which can be called "biographies of media" (Natale, 2016). Like biographies of prominent people, in fact, these narratives are a form of contingent narrative that frames historical characters, places, events, and things into stories that are written, recounted, and circulated through numerous channels and in different ways.

As with all media, the narratives about the emergence of the World Wide Web have come to signify much more than its mere history. Its narratives have become a key component of the way we imagine and conceptualize the web's impact on our societies and cultures. Scholars in media and technology studies have showed that ideas and cultural representations inform not only how technologies are imagined, but also how they are designed and adopted (Flichy, 2007; Mosco, 2004; Nye, 1994). In the case of the web, narratives about its "birth" and development have played a paramount role in orienting the public's imagination towards positive elements such as plurality, openness, and creativity, which in turn facilitated its insertion into broader narratives of political, social and cultural change (Lesage & Rinfret, 2015). An example of this dynamic is the use of narratives about the web in the political message of groups such as the Pirate Parties in northern and central Europe or the 5-Star-Movement in Italy, which explicitly linked the rise of this medium with the emergence of new forms of democracies and politics (Natale & Ballatore, 2014).

It is important to note that the use of the plural form "biographies" is meant to underline the plurality of these narratives. Although there might be dominant narratives and less influential ones, there is never, in fact, a single biography referring to any single medium. One of the main aspects characterizing the stories we tell about media and technologies is the coexistence of different and often contrasting versions of how a medium was born, developed, became ubiquitous, or disappeared (see Natale, 2016). Indeed, some of these narratives are historically inaccurate or inexact: take, for instance, the anecdotes about the first spectators of the cinematograph escaping before the image of a coming train, whose apocryphal nature has been documented by film historians (Bottomore, 1999; Sirois-Trahan,

2004; Tsivian, 1994). Nevertheless, whether an anecdote is based on events that have or have not taken place, its social and cultural impact depends on the extent to which this story is reported, disseminated, and used by different agents, such as individuals and institutions. Thus, a fake or greatly exaggerated anecdote such as the one about early cinema's "train effect" has become a veritable founding myth for this technology, informing its representation as an illusory machine and contributing to its attractiveness for large audiences throughout the world (Loiperdinger, 2004).

The relationship between narratives, biographies and technological change has recently received increasing attention in media history. Merav Katz-Kimchi, for instance, compares some of the main biographies and narratives of internet pioneers (e.g. Hafner & Lyon, 1998; Salus & Vinton, 1995), arguing that popular stories on American engineers and inventors "cast the history of the internet into the mythopoetic form of the technological romance" (Katz-Kimchi, 2015, p. 160). Others, such as Erkki Huhtamo, underlined the recurrence of narrative tropes or 'topoi' in different moments of media history and in reference to different media and practices (Huhtamo, 2013). Our approach aims to extend and complement these perspectives by stressing how biographies of pioneers and inventors, and the narrative tropes according to which they are constructed, go hand in hand with the biographies of their inventions.

## THE BIOGRAPHIES OF THE WEB AND ITS INVENTOR IN PARALLEL LINES

The analogy between the historical narratives regarding media and the biographical narratives regarding the life of people works not only at a metaphorical level. In fact, there is often a peculiar resemblance between the stories we tell about individuals and those we tell about media such as cinema, television, or the internet. Adriana Cavarero (2000) has shown that storytelling proceeds through trajectories that are embedded in the storyteller's life. Narratives are created by people, and bear the trace of narrative patterns retrieved from the people's lives. It is probably for this reason that biological and experiential events such as birth, maturity, aging, and death enter very often in narrative constructions through which we attempt to make sense of media change (Acland, 2007; Gaudreault & Marion, 2005). The idea that 'old media' might die as a consequence of the introduction—or birth—of 'new media' is an example of how much this dynamic enters into representations and narratives of media change (Ballatore & Natale, 2015).

The construction of biographies of the web, in this regard, is a particularly interesting case. Biographical narratives about its inventor, Tim Berners-Lee, conflate and become sometimes almost indistinguishable from the story of how the web emerged and developed. In Berners-Lee's autobiography, this association surfaces

sometimes in illuminating ways: when he describes the creation of the first web browser/editor, for instance, he links the episode to the birth of his first child, stressing that “as amazing as it would be to see the web develop, it would never compare to seeing the development of our child” (Berners-Lee, 2000, p. 31). It is not by chance that Micheal L. Dertouzos starts his introduction to *Weaving the web* claiming that it “is a *unique* story about a *unique* innovation, by a *unique* inventor [...] he opens a rare window into the way a unique person invents and nurtures a unique approach that alters the course of humanity” (Berners-Lee, 2000, p. vii, our italics). In fact, the entire trajectory of Berners-Lee’s biography provides a narrative line that also characterizes the biographies of the web.

In *The Hero with a Thousand Faces*, a classic work in narrative theory, Joseph Campbell demonstrates how a wide range of popular stories and myths from different cultural and linguistic traditions replicate a common narrative structure, which he calls ‘monomyth.’ As he points out:

whether presented in the vast, almost oceanic images of the Orient, in the vigorous narratives of the Greeks, or in the majestic legends of the Bible, the adventure of the hero normally follows the pattern of the nuclear unit [...]: a separation from the world, a penetration to some source of power, and a life-enhancing return. (Campbell, 2004, p. 33)

In what follows, we show that not only the story of Berners-Lee’s life and invention, but also the story of how the web emerged and came to play a key role in our society and everyday life follow the pattern of a narrative of the hero. Drawing on sources such as Berners-Lee’s autobiography (Berners-Lee, 2000), as well as other histories of the web and its inventor (e.g. Gillies & Cailliau, 2000; McPherson, 2009), we show that Campbell’s monomyth provides a useful resource to unveil how stories about the emergence of a new medium may be similar to the unfolding of stories about mythical characters. Looking at Berners-Lee and at the web’s biographies in parallel lines, in this sense, helps uncover how the recurring narrative pattern of the hero applies to stories about individuals as well as about ‘things,’ such as media.

## The departure

According to Campbell, the first stage in the narrative of the hero is the *departure*, where the hero receives his call to adventure. Through this call, destiny summons the hero, preparing him for entering into an unknown space of adventure and realization. Following a pattern that characterize many biographies of inventors (Ortoleva, 1996), a call to adventure can be found in the recounting of the life of Berners-Lee, as his vocation is located within his family heritage and his natural disposition. Berners-Lee’s parents were both mathematicians and worked together at the Ferranti Mark I, the first computer sold commercially. In his autobiography, the inclination of the young Berners-Lee for computing is related to his educational

path and his parents' teaching. Moreover, the premature passion for experimenting and problem solving foretells his destiny since the beginning. The first symptom of the fascination with the 'connectivity issue' is identified with a brief discussion between the young Berners-Lee and his father Conway:

He was reading books on the brain, looking for clues about how to make a computer intuitive, able to complete connections as the brain did. We discussed the point [...] The idea stayed with me that computers could become much more powerful if they could be programmed to link otherwise unconnected information. (Berners-Lee, 2000, p. 4)

Similar episodes establish a twofold representation of inventorship as the result of both predestination and fortunate environmental conditions—a combination of natural gifts and chance.

Other anecdotes in his narrative point to the role of chance, such as the acquisition of the NeXT computer, a special 'gift' through which his supervisor Mike Sendall encouraged him to work on the web idea. Chance is a common characteristic of biographies of scientists and inventors, in which it often plays a paramount role in representing the nature of the creative act leading to innovation: think of the apple in the story of Newton realizing the principle of gravity, or the anecdotes about the chance discovery of X-rays by W.C. Röntgen (Dessauer, 1945). Such anecdotes tend to simplify the complexity of the act of invention, enforcing the existence of a veritable call of destiny (Gorman & Carlson, 1990). In Campbell's monomyth, this can be identified with the supernatural aid that prepares the hero for the initiation—which, in Berners-Lee's case, will be the invention of the World Wide Web.

The call to adventure may coincide with a particular episode: "an event, often happened seemingly by chance, activates the hero's adventure" (Campbell, 2004, p. 53). In the footsteps of Campbell's work, Christopher Vogler argues that "most stories take the hero out of the ordinary, mundane world and into a Special World, new and alien" (Vogler, 2007, p. 10). This "new and alien world" was, in Berners-Lee's journey, the European Organization for Nuclear Research (CERN), which he joined for the first time in 1980. The new environment is portrayed with mythical tones in Berners-Lee's autobiography as "an electronic engineer's paradise, with columns of oscilloscopes and power supplies and sequencing equipment, most of it built especially for or by the CERN" (Berners-Lee, 2000, p. 8).

To what extent does the call to adventure characterize not only the biography of the web's inventor, but also the 'biographies' of the web? In narrative recounting of the web's birth, one finds several traces of a similar call that prepares and anticipates the new medium's purported destiny as an egalitarian and democratic means for transmitting information. A similar dynamic is involved, for instance, in the construction of a lineage of precursors for the web such as Ted Nelson's Xanadu, but also hypertext programs like Apple's Hypercard, the narrative software Storyspace and Berners-Lee's Enquire, considered as the predecessor of the web. This lineage is



inserted into canonical histories of the web (Banks, 2008; Gillies & Cailliau, 2000, pp. 11–46). Through the reference to a pre-history populated by visionary thinkers (e.g. Bush, 1945; Engelbart, 1962; Nelson, 1987) who imagined the design and implications of technologies and systems yet to be, as well as enthusiastic early adopters, the preconditions to the web take the shape of a ‘call for adventure’ that ultimately supports claims about the revolutionary character of this medium. Additionally, as in the case of Berners-Lee’s biography, the ‘Special World’ (Vogler, 2007, p. 10) where the emergence of the web is contextualized is CERN—an environment which is characterized by some of the same qualities, such as openness and cooperation, attributed to the web by mythical and imaginary constructions (Lesage & Rinfret, 2015; Mansell, 2012; Mosco, 2004; Natale & Balbi, 2014). The CERN, a collaborative scientific enterprise created under the auspices of European cooperation, based in “a city at the heart of Europe with a cosmopolitan heritage” such as Geneva (Gillies & Cailliau, 2000, p. 48), is represented as the ideal context where a medium like the web might originate and flourish. The destiny of the web is traced through a myth of origins that contrasts sharply with narratives about the emergence of the internet, according to which the idea for the structure of the network was conceived within a military mind frame, in order to counteract the effects of a potential nuclear attack. As Tung-Hui Hu recently pointed out, the latter narrative is historically inaccurate, and yet continues to be kept alive, also due to the deeper ideological implications that this myth of origins implies for representations of the internet (Hu, 2015, pp. 8–10). In contrast, the web’s origins in CERN tell a different story, one preparing and supporting arguments about the web’s decentralized and egalitarian character.

The constant parallelism between anecdotes about Berners-Lee’s life and anecdotes on the development of the web shows how the hagiography of the inventor contributes to the hagiography of the medium. According to the narrative, it is not by chance that, when Berners-Lee became an expert programmer and was hired by CERN, some relevant technological events were occurring too. In the late 1980s new powerful computers like the NeXT were commercialized, hypertext-based software spread in Western countries, and CERN had just decided to adopt the TCP/IP protocol, a keystone for the web’s success. Berners-Lee himself claims that, unlike his unlucky predecessors, his walk of life coincided with the time in which the web could finally occur: “Unfortunately, just like Bush and Nelson, Doug (Engelbart) was too far ahead of time. [...] I happened to come along with time, and the right interest and inclination, after hypertext and the internet had come of age. The task left to me was to marry them together” (Berners-Lee, 2000, p. 6). Similarly, the emergence of the web is grounded within a context of social and technological foundations that make it not only possible, but also to a certain extent inevitable (Lesage & Rinfret, 2015). The inescapable destiny of the departure, in this sense, is a narrative trope that underpins the biographies of both the medium and its inventor.



## The initiation

In Campbell's monomyth the departure is followed by the second phase, the *initiation*, in which the hero transcends the threshold to the unknown world in which the core of the adventure takes place. This stage includes the hero overcoming several trials and finally completing his quest, for which he might receive a reward. Translating this pattern into the biography of Berners-Lee, this phase corresponds to the invention of the World Wide web and the initially uncertain pattern of institutionalization and diffusion for the new invention. Biographical recountings of Berners-Lee's life underline the struggles and trials he had to endure in this phase. At the beginning, the CERN community did not entirely grasp the implications of Berners-Lee's idea. His supervisor, Mike Sendall, wrote a famous remark on the first web project proposal defining it 'vague but exciting' (Berners-Lee, 1989, p. 1). Promoting the web at CERN was therefore the first trial Berners-Lee and Robert Cailliau—his 'allied,' to use the term employed to describe another archetypal character in narratives of the hero (Vogler, 2007)—had to face.

In his proposal, Berners-Lee argued that CERN is a "model in miniature of the rest of world in a few years time" (Berners-Lee, 1989, p. 1). The fluid environment of this institution, characterized by the constant exchange of international researchers and the consequent problem of information loss, was in Berners-Lee's narrative an element that also characterized larger challenges the new information society would face. The parallelism made by Berners-Lee between the CERN's organizational structure (which represented a micro-structure of the new society) and the need for a new system of information management (the web) hinted at the idea that technological and social change were following the same path, or in other words, that the same 'biographical' transitions would occur both in the media landscape and in everyday life (Natale, 2016).

Berners-Lee knew that promoting the web meant first of all persuading expert users to adopt the new system (Bory, Benecchi, & Balbi, 2016). Besides CERN, the major step towards the evangelization of the web was to convince the hypertext community that hypertext and the internet could be matched and used together. For this reason, in 1991 Berners-Lee and Cailliau joined the Hypertext Conference in San Antonio. Even though their paper proposal was rejected because of a lack of references to the field, they asked to give a demonstration of their project. However, as Berners-Lee put it, "the Hypertext community was so separated from the internet community that we couldn't get any kind of connectivity at all" (Berners-Lee, 2000, p. 51). Thanks to the hacking skills of Cailliau and to the creativity of Berners-Lee, the demonstration finally took place, with the hero overcoming several trials: "Several obstacles stood on their way. First they needed a telephone outlet to hook up their modem. [...] They had to dismantle the modem, rewire it, and put it

together with a soldering iron. Then they still needed a way for the modem to get internet access” (McPherson, 2009, p. 59).

Further attempts to promote the web and demonstrate its usefulness are described by Berners-Lee as a series of trials, such as stopping the attempt by NCSA to rename the WWW as Mosaic (Berners-Lee, 2000, p. 70), or negotiating funding and resources for the development of the project, demonstrating the usefulness of the web to editors and companies (Berners-Lee, 1992). As in the case of the departure stage, the same pattern of initiation can be fruitfully applied also to the ‘biographies’ of the emergence of the World Wide Web. Narratives of the web’s emergence, in fact, also underline the many trials and difficulties involved in establishing the World Wide Web as a functional system, and in keeping the spirit of its foundations (e.g. Gillies & Cailliau, 2000, pp. 172–201).

According to Campbell, when the hero completes her quest and therefore her initiation, she might reach an apotheosis that makes her closer to a godlike state—which is, however, never to be fully reached, as the story of Prometheus teaches us (Campbell, 2004, 127–47). Berners-Lee’s apotheosis coincides with the sacrifice of his invention’s intellectual property. Many authors and scholars have acknowledged the heroism of Berners-Lee. The story of the inventor who renounced richness and power to protect the public mission of an invention is a recurrent trope in biographies of inventors, and has shaped popular representations of figures such as Daguerre or Röntgen. A video interview given by media scholar Andrew Keen to the website C-Span is an apt example of how this contributes to the hagiography of the web’s inventor:

In my view, Tim Berners-Lee is a hero. He was a typically publicly-spirited scientist who did this out of love. No one was paying him. He essentially gave it away. He could have owned the World Wide Web. He could have put all sorts of IP around it and would have become an incredibly rich man, but he didn’t. He was very publicly-spirited. (Lamb, 2015)

Along similar lines, an article of the *Time* defines Berners-Lee as “the unsung—or at least undersung—hero of the information age. Even by some of the less breathless accounts, the World Wide Web could prove as important as the printing press. That would make Berners-Lee comparable to, well, Gutenberg, more or less” (Wright, 1997, p. 64).

As Marcel Mauss has shown in a classic essay (Mauss, 1990), every gift brings along the donor’s identity. In this regard, the sacrifice of Berners-Lee and the gift of the web to society is a “personal renunciation that nourishes social forces” (Hubert & Mauss, 1964, p. 102) reinforcing at the same time the characterization and the identity of the hero. More broadly, the refusal of getting money or any other advantage from his invention, which coincides with the sacrifice of the hero, does not only contribute to the hagiography of Berners-Lee; it also strengthens the analogy between the web’s inventor and the web itself, portrayed as a neutral

space also in terms of economic interests and power. This is, in fact, one of the most common myths about the web: as some point out, “the web is Franciscan, anti-capitalistic” (Casaleggio & Grillo, 2011, p. 8; see Natale & Ballatore, 2014, p. 114). Such ideological representation contrasts sharply with the actual role of commerce and money in the web (Brunton, 2013). The recent call for a “Magna Carta for the web” (Berners-Lee, 2014) is only one example of how this tension between contrasting visions of the web is playing a central role in the trajectory of Berners-Lee and the web’s journey.

### The return and reintegration with society

In the third and last stages of Campbell’s monomyth, the hero returns to his own world:

The full round, the norm of the monomyth, requires that the hero shall now begin the labor of bringing the runes to wisdom, the Golden Fleece, or his sleeping princess back into the kingdom of humanity, where the boon may redound to the renewing of the community, the nation, the planet, or the ten thousand worlds. (Campbell, 2004, p. 167)

This might involve new difficulties as the hero is reluctant to return, or overcomes further trials before reaching his goal.

In Berners-Lee’s biographical narrative, the foundation and governance of the World Wide Web Consortium (W3C) at the MIT corresponds to the return stage in Campbell’s myth. Once the web has spread globally, and Berners-Lee has accomplished his main mission, new responsibilities and trials emerge as the hero struggles to protect his invention from new powers threatening the public domain of his invention, as well as to preserve the message that the web conveys through the mythological narrative inscribed in its biographical path. Within the W3C, the hero becomes the guardian of his treasure. Rather than representing the end of the adventure, Berners-Lee’s return coincides with a new call to adventure where the inventor has to safeguard his heritage, also by making people aware of the importance of web neutrality. Additionally, Berners-Lee’s late conversion to the Unitarian Universalist church (UU)—a religious community that lists among its principles the “respect for the interdependent web of all existence of which we are a part” (Unitarian Universalist Association, n.d.)—also stress the new quest of the hero. In the FAQ page of his website and in the final chapter of his autobiography (Berners-Lee, 2000, pp. 207–209), Berners-Lee compares the web and the UU, claiming that “web and the UU concept of faith are similar in that both serve as a place for thought, and the importance of the quest for truth, but without labelling any one true solution” (Berners-Lee, 1998). Covering the same biographical path, the institutionalization of the web as a global medium goes hand in hand with the foundation of a new supervising institution, the W3C, and the promotion of

a religious association, the UU: two different but concomitant expressions of the universalist vision behind the technical structure of the web. As Berners-Lee himself points out, “the parallels between technical design and social principles have recurred throughout the web’s history” (Berners-Lee, 2000, p. 207).

As for the other stages in the hero’s path, the return phase applies well also to the construction of biographical narratives related to the web as a medium. Crucially, the preservation of web neutrality is ensured through a process that involves continuity and change at the same time. In this context, paradigmatic shifts in the conventions and uses of the medium are offered as biographical narratives through which the web’s participatory and neutral ideology is preserved even in the process of change. This is the case, for instance, of the passage between Web 1.0 and Web 2.0, which represents one of the key narratives through which the recent history of the medium has been told and constructed. According to such narratives, the shift in the definition of the web reproduces the same values of its origins, such as authenticity, openness, the relinquishing of control, the sharing of code, and the building on the efforts of others (Scholz, 2008). As Megan Sapnar Ankerson has recently shown, the shift to Web 2.0 not only involved the emergence of new technologies and practices, but perhaps even more crucially, the construction of a new narrative through which the history of the medium was connected to broader cultural imaginaries. As this narrative became dominant, other potential narratives carrying different and potentially disruptive implications and meanings were pushed to the margins—to give an instance, the crisis of the internet-based sector in the late 1990s, known as dot-com bubble, was ultimately overshadowed by competing narratives celebrating the rise of the web (Ankerson, 2015).

The history of the web, as a result, becomes a field through which particular representations of the medium and its impact are produced and preserved. Like a hero’s journey, the passing of the web through different technical and cultural frameworks is portrayed as a path where different trials are overcome to safeguard what is imagined as the true essence of the medium—its open, participatory nature.

## CONCLUSION

Biographies of inventors are a highly standardized subgenre, characterized by common patterns and narrative tropes (Ortoleva, 1996). Not unlike biographies of other classes of individuals, such as artists (Kris & Kurz, 1979) or entrepreneurs (Godelier, 2007), the life stories of inventors from different ages and places include recurring anecdotes that help define the limits and possibilities of issues such as geniality and invention. A similar discourse applies, as the case of the web contributes to show, to biographies of media. Rather than being isolated narratives about single technologies and media, these stories should be regarded as a particular genre with

its own recurring patterns and tropes. Looking at these patterns helps unveil the levels of meaning that are embedded in the stories we tell about media technologies.

Biographies of media, in fact, are not ‘mere stories’: they should be regarded as one of the ways in which cultural, social and ideological representations of media are created and disseminated (Natale, 2016). By following familiar narrative patterns such as Campbell’s monomyth, they provide a trajectory through which we represent and imagine the impact of media in our societies and everyday lives. In this respect the imaginary associated to the biographies of media, rather than being relegated to the status of a ‘mirror metaphor’ (Castoriadis, 1987), actively contributes to the shaping and institutionalization of the role of specific media in our society. While biographies of inventors are useful sources to comprehend how inventorship is defined and culturally approached in a society, narratives about the emergence and development of new media such as the web are access points to the particular representations concerning innovation, technology, and communication that circulate across societies. Built around the familiar narrative pattern of departure, initiation, and return, the ‘biography’ of the web becomes therefore a field through which particular definitions and understandings of the new medium are constructed, reproduced, and disseminated.

## REFERENCES

- Acland, C. R. (2007). *Residual media*. Minneapolis, MN: University of Minnesota Press.
- Ankerson, M. S. (2015). Social media and the ‘Read-Only’ web: Reconfiguring social logics and historical boundaries. *Social Media and Society*, 1(2), 1–12. doi:10.1177/2056305115621935
- Appadurai, A. (1986). *The social life of things: Commodities in cultural perspective*. Cambridge: Cambridge University Press.
- Ballatore, A., & Natale, S. (2016). E-readers and the death of the book: Or, new media and the myth of the disappearing medium. *New Media & Society*, 18(10), 2379–2394. doi:10.1177/1461444815586984
- Banks, M. A. (2008). *On the way to the web: The secret history of the internet and its founders*. Berkeley, CA: Apress.
- Berners-Lee, T. (1989). *Information management: A proposal*. Retrieved January 20, 2016 from <http://www.w3.org/History/1989/proposal.html>
- Berners-Lee, T. (1992). Electronic publishing and visions of hypertext. *Physics World*, 5(6), 14–16.
- Berners-Lee, T. (1998). *The World Wide Web and the “Web of Life.”* Retrieved January 20, 2016 from <https://www.w3.org/People/Berners-Lee/UU.html>
- Berners-Lee, T. (2000). *Weaving the web: the original design and ultimate destiny of the World Wide Web by its inventor*. New York: Harper Collins.
- Berners-Lee, T. (2014). *A Magna Carta for the web*. Retrieved January 20, 2016 from [http://www.ted.com/talks/tim\\_berniers\\_lee\\_a\\_magna\\_carta\\_for\\_the\\_web](http://www.ted.com/talks/tim_berniers_lee_a_magna_carta_for_the_web)
- Bory, P., Benecchi, E., & Balbi, G. (2016). How the web was told: Continuity and change in the founding fathers’ narratives on the origins of the WWW. *New Media & Society*, 18(7), 1066–1087.
- Bottomore, S. (1999). The panicking audience?: Early cinema and the “train effect.” *Historical Journal of Film, Radio and Television*, 19(2), 177–216.

- Brunton, F. (2013). *Spam: A shadow history of the internet*. Cambridge, MA: MIT Press.
- Brügger, N. (2013). Web historiography and internet studies: Challenges and perspectives. *New Media & Society*, 15(5), 752–764. doi:10.1177/1461444812462852
- Bush, V. (1945). As we may think. *The Atlantic Monthly*, 176(1), 101–108.
- Campbell, J. (2004). *The hero with a thousand faces*. Princeton, NJ: Princeton University Press.
- Casaleggio, G., & Grillo, B. (2011). *Siamo in guerra. Reverse* (1st ed.). Milano: Chiare Lettere.
- Castoriadis, C. (1987). *The imaginary institution of society*. Cambridge: Polity Press.
- Cavarero, A. (2000). *Relating narratives: Storytelling and selfhood*. Abingdon: Routledge.
- Crawford, S. (2007). Internet think. *Journal on Telecommunications and High Technology Law*, 5, 467–486.
- Dessauer, F. (1945). *Wilhelm C. Röntgen: Die Offenbarung einer Nacht*. Frankfurt am Main: Josef Knecht.
- Engelbart, D. C. (1962). *Augmenting Human Intellect: A Conceptual Framework. Summary Report AFOSR-3223 under Contract AF 49 (638)-1024, SRI Project 3578 for Air Force Office of Scientific Research*. Stanford, CA: Stanford Research Institute.
- Flichy, P. (2007). *The internet imaginaire*. Cambridge, MA: MIT Press.
- Gaudreault, A., & Marion, P. (2005). A medium is always born twice. *Early Popular Visual Culture*, 3(1), 3–15.
- Gell, A. (1998). *Art and agency: An anthropological theory*. Oxford: Clarendon Press.
- Gillies, J., & Cailliau, R. (2000). *How the web was born: The story of the World Wide Web*. Oxford: Oxford University Press.
- Godelier, E. (2007). “Do you have a garage?” Discussion of some myths about entrepreneurship. *Business and Economic History Online*, 5, 1–20.
- Gorman, M. E., & Carlson, W. B. (1990). Interpreting invention as a cognitive process: The case of Alexander Graham Bell, Thomas Edison, and the Telephone. *Science, Technology & Human Values*, 15(2), 131–164. doi:10.1177/016224399001500201
- Hafner, K., & Lyon, M. (1998). *Where wizards stay up late: The origins of the internet*. Boston, MA: Simon and Schuster.
- Hu, T.-H. (2015). *A prehistory of the cloud*. Cambridge, MA: MIT Press.
- Hubert, H., & Mauss, M. (1964). *Sacrifice: Its nature and functions*. Chicago, IL: University of Chicago Press.
- Huhtamo, E. (2013). *Illusions in motion: Media archaeology of the moving panorama and related spectacles. Leonardo book series*. Cambridge, MA: MIT Press.
- Katz-Kimchi, M. (2015). “Singing the strong light works of [American] engineers”: Popular histories of the Internet as mythopoetic literature. *Information & Culture*, 50(2), 160–180.
- Kris, E., & Kurz, O. (1979). *Legend, myth, and magic in the image of the artist: A historical experiment*. New Haven, CT: Yale University Press.
- Lamb, B. (2015). Q&A with Andrew Keen. Retrieved January 20, 2016 from <http://www.c-span.org/video/?323814-1/qa-andrew-keen&start=1973>
- Lesage, F., & Rinfret, L. (2015). Shifting media imaginaries of the web. *First Monday*, 20(10). doi:10.5210/fm.v20i10.5519
- Loiperdinger, M. (2004). Lumière’s arrival of the train: Cinema’s founding myth. *The Moving Image*, 4(1), 89–118.
- Mansell, R. (2012). *Imagining the internet: Communication, innovation, and governance*. Oxford: Oxford University Press.
- Mauss, M. (1990). *The gift*. Abingdon: Routledge.
- McPherson, S. (2009). *Tim Berners-Lee: Inventor of the World Wide Web*. New York, NY: Twenty-First Century Books.

- Mosco, V. (2004). *The digital sublime: Myth, power, and cyberspace*. Cambridge, MA: MIT Press.
- Natale, S. (2016). Unveiling the biographies of media: On the role of narratives, anecdotes and storytelling in the construction of new media's histories. *Communication Theory*, 26(4), 431–449. doi:10.1111/comt.12099
- Natale, S., & Balbi, G. (2014). Media and imaginary in history: The role of the fantastic in different stages of media change. *Media History*, 20(2), 203–218. doi:10.1080/13688804.2014.898904
- Natale, S., & Ballatore, A. (2014). The web will kill them all: New media, digital utopia, and political struggle in the Italian 5-Star Movement. *Media, Culture & Society*, 36(1), 105–121. doi:10.1177/0163443713511902
- Nelson, T. H. (1987). *Computer lib: Dream machines*. Redmond, WA: Tempus Books of Microsoft Press.
- Nye, D. E. (1994). *American Technological Sublime*. Cambridge, MA: MIT Press.
- Olney, J. (1972). *Metaphors of self: The meaning of autobiography*. Princeton, NJ: Princeton University Press.
- Ortoleva, P. (1996). Vite geniali: Sulle biografie aneddotiche degli inventori. *Intersezioni*, 1, 41–61.
- Reeves, B., & Nass, C. I. (1996). *The media equation: How people treat computers, television, and new media like real people and places*. Stanford, CA: CSLI Publications.
- Salus, P. H., & Vinton, G. (1995). *Casting the net: From ARPANET to internet and beyond*. Boston, MA: Addison-Wesley Longman.
- Scholz, T. (2008). Market ideology and the myths of Web 2.0. *First Monday*, 13(3). doi:10.5210/fm.v13i3.2138
- Schulte, S. R. (2013). *Cached: Decoding the internet in Global Popular Culture*. New York, NY: New York University Press.
- Silverstone, R., & Haddon, L. (1996). Design and the domestication of information and communication technologies: Technical change and everyday life. In R. Mansell & R. Silverston (Eds.), *Communication by design: The politics of information and communication technologies* (pp. 44–74). Oxford: Oxford University Press.
- Sirois-Trahan, J.-P. (2004). Mythes et limites du train-qui-fonce-sur-les-spectateurs. In V. Innocenti & V. Re (Eds.), *Limina: Le soglie del film* (pp. 203–216). Udine: Forum.
- Tsivian, Y. (1994). *Early cinema in Russia and its cultural reception*. Abingdon: Routledge.
- Unitarian Universalist Association. (n.d.). *7th principle: Respect for the interdependent web of all existence of which we are a part*. Retrieved January 20, 2016 from <http://www.uua.org/beliefs/what-we-believe/principles/7th>
- Vogler, C. (2007). *The writer's journey. Mythic structures for writers*. Studio City, CA: M. Wiese Productions.
- Wright, R. (1997). The man who invented the web. *Time Magazine*, 149(20), 64–68.