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Inter-mediality in Digital Media Environment

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ABSTRACT

As a medium literature has always been characterized by a strong virtual dimension: the capacity to evoke alternative worlds, an imaginary universe which may clash with the real one, or even deconstruct the opposition between real and fictional. Postmodern fiction has stressed and expanded the inter-medial aspect of literature, showing a true obsession with visual media and extra-literary codes. Sometimes it goes well beyond infinite, playful rewriting and becomes a true inter-medial phenomenon, a significant synergy between media and the arts, strongly linked to narrative strategies and symbolic values, as in the so-called maximalist novel. The digital revolution has already changed, and is still changing, the classical notions of author, text, public and intellectual property. Instead of defending the purity of a lost tradition, literature must now face the complex and multisensory logic of contemporary mediality, based on acceleration, simultaneity, and hyper-mediation. If literature is comparable to a medium, then, according to Derrida, the postmodern tendency to narrate the de-centrations of the book might allow us to consider it as technology. Starting from this premise, the paper will endeavor to illustrate how the material supports of literature, i.e. the book and the printed page, are technological forms involved in a continuous process of computerization. We shall be analyzing *The GRAMMATRON* and *Remix the Book*, two projects by Mark Amerika, using examples showing how inter-mediality becomes a theoretical concept to express the complexity of aesthetic experiences in contemporary media contents.

Introduction: a lexicon for a contemporary inter-medial literature

This essay investigates the role of literature within the expanded field of digital artworks as a gearwheel compatible with wider inter-medial processes. Within the digital media environment, literature is rethinking its historical tradition in new fields of linguistic and formal experimentation and new ways of relevant media circulation. Within the context of digital art and its practices, literature is involved in a matrix of interrelations with locative and immersive media, and as part of broader projects of remixology practices and hypermedia fiction. Literature is thus conceivable as an intricate medium in which its intrinsic capacities to evoke possible worlds and fictional universes extends its capacity to adapt the critical theory to the complexity of technological transformations. Instead of defending the purity of a lost tradition, literature must now face the complex and multisensory logic of contemporary mediality, based on acceleration, simultaneity and hyper-mediation. If literature is comparable to a medium, then, according to Derrida, the postmodern tendency to narrate the de-centrations of the book might allow us to consider it as technology and consequently as an apparatus opened up to a flux of re-mediation processes. Postmodern fiction has stressed and expanded the inter-medial aspect of literature, showing a true obsession with visual media and extraliterary codes, in order to build imaginary universes

which may clash with the real one, or even deconstruct the opposition between real and fictional, as in the so-called maximalist novel (e.g. Pynchon's *Gravity's Rainbow*, DeLillo's *Underworld* and Wallace's *Infinite Jest*) (Ercolino, 2014). While continuing the attraction of postmodernist fiction for the media and technological paradigms as they influence the written text, contemporary experimental fiction sometimes goes well beyond infinite, playful rewriting, and becomes a genuine inter-medial phenomenon, comprising significant synergy between media, technology and the arts, strongly linked to narrative strategies and symbolic values.

Starting from this premise, our work will try to illustrate how the material supports of literature, i.e. the book and the printed page, are technological forms involved in a continuous process of transformation by computerization, becoming comparable to software (Manovich), open to various intermedial interferences. The analysis will focus on several cases of textual digital experimentation as a result of the synergy between different media. Each case refers to the terms of a lexicon of relationships between traditional textualities and media experiences – hyperlink and hypermedia fiction, trans-mediality and trans-materiality, interactive storytelling, augmented and immersive literary adaptations. From this perspective, technological literary transformations present the relationship between printed and digital text as an epistemological tool

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with which we orient ourselves in the artistic and narrative multilinearity of the contemporary media-sphere. As examples showing how intermediality becomes a theoretical concept to express the intricate aesthetic experiences in contemporary media contents, we shall mainly be analyzing two projects by Mark Amerika: *The GRAMMATRON* and *Remix the Book*, which aim to transform written text into a rhizomatic structure and the book into intermedial spaces.

Literature as medium

As a medium, literature has always been characterized by a strong virtual dimension: the capacity to evoke alternative worlds, an imaginary universe which can conflict with the empirical one, or even deconstruct the opposition between real and fictional. This feature has been defined by possible world semantics as “world constructing power” (Doležel, 1998), and is exemplified, in an extremely effective and fascinating way – we might say in a mythological way – by Cervantes’ *Don Quixote* and its rich and enduring trans-medial life.

Postmodern fiction has stressed and expanded the inter-medial aspect of literature, showing a true obsession with visual media and extraliterary codes. Usually, this obsession finds its expression in allusions, quotations, descriptions, and other intertextual practices; the well-known postmodernist trend towards pastiche. Sometimes, however, it goes well beyond playful infinite rewriting, and becomes a true inter-medial phenomenon, a significant synergy between arts, technology and media, strongly linked to narrative strategies and symbolic values.

This is the case with the maximalist novel, the contemporary epic canvas distinctly opposed to postmodernist aesthetics of citationism. In defining this new genre, Stefano Ercolino (2014) identifies a crucial category, inter-semioticity, quoting as examples imaginary films by real directors described in DeLillo’s *Underworld* (Eisenstein’s *Unterwelt*) and in Bolaño’s *2066* (the first movie by Robert Rodríguez), or the imaginary film *Infinite Jest* by an imaginary filmmaker, James Incandenza, at the core of Davide Forster Wallace’s homonymous novel; or again DeLillo’s use of Breughel’s painting *The Triumph of Death*, or Bolaño’s complex exploitation of Arcimboldo’s paintings (Ercolino et al., 2016). All these examples develop a profound intersection between literary and visual rhetoric, and express the main thematic and ideological elements of the texts, respectively DeLillo’s apocalyptic vision, Bolaño’s carnivalesque and encyclopedic chaos and Wallace’s reflection on addiction and the unlimited power of cinematic image in contemporary society.

The digital revolution has already changed, and is still changing, the classical notions of author, text, public, and intellectual property. Instead of defending the purity of a lost tradition, literature must now face the complex and multisensory logic of contemporary mediality, based on acceleration, simultaneity and hyper-mediation. According to Jay David Bolter (2019), the reality of contemporary media products is shaped by a maximalist vocation that can be described as *digital plenitude*: a multitude of practices intertwined in our daily life, whose cultural condition is determined by the end of elitist culture of the Twentieth century and the affirmation of digital media. On the one hand, the promises of immersion and interactivity of virtual reality draw attention to the world in which fiction and print have always been agitated by the same aim of plunging the reader into fictional worlds. As Ryan (2001) points out, literary criticism has often invoked the metaphor of immersive experience to describe the notion of reading; conversely, digital plenitude and post-media communication push narration to open up to the dynamic forms of digital storytelling. On the other hand, within digital plenitude narration is becoming more and more pluralistic, polyfunctional, polycentric, and chiefly antihierarchical, like software that can be continuously rewritten and reused (Manovich, 2013).

This fluid and anti-Aristotelian vision of textuality might bring to mind literary and philosophical theories going back to a pre-digital age and to the Seventies, especially Roland Barthes’ *écriture* (1970) as a re-

versible and open process, detached from any authorial ideology; here, we might add Deleuze and Guattari’s rhizome (1972) as a multiple, non-hierarchical model of knowledge, or, more recently, Nicholas Bourriaud’s *The Radicant* (Bourriaud, 2009), a model of art for the contemporary age based on simultaneous enrootings, and on continuous transcoding and translating images, ideas and behaviour. There are several obvious differences between these aesthetic concepts and contemporary intermediality, especially since the latter is totally free from any utopian and subversive dimension; nevertheless, the parallelism is striking and stimulating.

If literature is comparable to a medium then, according to Derrida (1998), the postmodern tendency to narrate the de-centering of the book might allow us to consider the book itself as technology. Starting from this premise, we will try to illustrate how the material supports of literature, i.e. the book and the printed page, are technological forms involved in a continuous process of computerization. This consideration confirms what was emerging *in nuce* from the maximalist novels mentioned before.

The book as technology

This new configuration of textuality and narrative also produces new hybrid products, such as the gamebook, in which, following a series of available choices, the reader traverses the narrative sections he prefers. This model finds a well expanded version on the web: Italian writer Giuseppe Genna published *Medium* (2007), his intimistic novel about the death of the father, on his website, adding hypertextual links. At the same time new configurations of textuality create new roles for the literary text, such as the trans-medial adaptation (for example *Game of Thrones* and *Lord of the Rings*), where novels become parts of a multidirectional dissemination, disrupting any fixed order or vertical hierarchy.

A relevant example is *S. The Ship of Theseus* (2013) written by J.J. Abrams, renowned Hollywood sci-fi filmmaker (*Star Trek*, *Star Trek – Into the Darkens*, the *Star Wars* sequel trilogy) together with Douglas Dorst, an adventure-fantasy novelist (*Alive in Necropolis*, *The Surf Guru*). The singularity of *S.* does not lie so much in the collaboration between a successful filmmaker and a less well-known novelist, as in the creative use of digital print techniques in the overall graphic design of the book.

S. is based on the expedient of a “book within a book”. It presents the reader with an illusion of having, in his/her own hands, an old book printed in 1949, *The Ship of Theseus*, by V.M Straka. The novel is an adventure story set on a mysterious sea-going vessel, in which an amnesiac man, called *S.* by the crew, undertakes a tortuous journey to discover his real identity. This old book and its author are fictive, but the illusion of reality is achieved through certain printed effects, such as: yellowing and moldy pages, the presence of the Dewey code on the spine, the library borrowers’ list, the extensive presence of handwritten commentaries, underlined sentences, circled words, drawings, diagrams clearly sketched in the margins, and the fact that the whole book has been allegedly put together by two young scholars at Pollard University, Eric (PhD) and Jen (undergraduate).

The notes written by Eric and Jen indicate three distinct temporal moments that the reader can identify through the use of different ink color combinations and writing styles: blue, orange and violet in longhand for Jen; black, green and red in block letters for Eric. Apart from the handwritten marginalia, different kinds of artifacts are inserted in the pages (maps, photos, postcards, diary pages, newspaper articles, etc.), which aim at engaging the reader into narrative levels extending outside the main novel, in order to simulate a collaboration with the intricate investigation Eric and Jen are carrying out. The two young scholars are fully involved in the search for Straka’s real identity; they explore various theories, textual clues, hidden codes, numeric combinations and recurrent motifs – especially in the footnotes redacted by Straka’s official translator, FX Caldeira (who might well have had a troubled love affair with the author).

These marginalia are a sort of a special effect extending the narration beyond the printed text. Readers immerse themselves in the book, witnessing the transformation of a traditional *hypo-text* (*The Ship of Theseus*) into a highly articulated *hypermedia fiction*. The textual transformation from hypo-text to hypermedia is actively generated by the substitution of the text with a network of *hypertexts* (commentaries, notes, diagrams, etc.). As a result, *S.* is revealed to be the sum of many interlaced, multiplying stories. Moreover, the materiality of the marginalia and of the book itself (yellowed pages, hardcover, artifacts, etc.) collocates *S.* in a media space where analogic models and digital technologies converge. The main specificities of the analogic medium, as a printed book, become hardly distinguishable from the narrative structures and formats of digital media. This unusual convergence defines an *intermedia dimension*, where a medium is no longer isolated but rather relocated in a network of interoperating medialities. *S.* may be defined as a “paperized” medium in which other media, especially digital ones, are re-mediated through textual strategies, interactivity patterns and even visual and tactile experiences. From another perspective, *S.* displays a curious nostalgia toward analogic devices, which emphasizes the material perishability of the book in the age of media de-materialization (*postmedia*).

The use of print technology, together with the interplay of professional skills from entertainment and media design, paves the way to a comparison between analogic books and computerized media, and also between linear and multilinear narrative. Production synergies involved in the hypermedia fiction of *S.* blur the edges between mass-culture commodity and highbrow artwork. The contamination between high and low culture is duly confirmed by the realization of a book claiming to be rare and exclusive, but with a print run of thousands of copies.

The illusion of uniqueness is sustained by the hyper-realistic aesthetic of handwritten marginalia, hinting at the textual presence of other, unofficial authors. *S.* is based on an aesthetic principle of multilinearity as a transcoding of the reader’s involvement in the interactive storytelling pervading the forms of digital media narrative. The reader who browses *The Ship of Theseus* is immediately cast into a network of interactive devices that produce a series of fragmentations and interferences disrupting the linearity of traditional reading, and in a way that goes far beyond mere textuality. For example, readers pick up and analyze the clues disseminated in the text by tracking, in parallel, Eric and Jen’s progressive discoveries. He can also approach the text in a more traditional way, aiming to linearize the fragmentations generated by the hypertexts dispersed throughout the work. As Brendon John Wocke has illustrated, readers find themselves engaged in an even more polymorphic and dynamic reading experience, supported by poly-textuality, the “result of the integration of diverse types of texts and interactive networks which interfere and mutually resist one another, and which result in a progressively new dimension of reading” (2014, 9).

Nevertheless, poly-textuality keeps readers involved in the textual regimes. Conversely, another reading mode leads more explicitly towards extra-textuality. Endeavoring to verify the historical data disseminated throughout the novel and the marginalia, with the aim of solving the mystery, readers move from the printed book to internet pages, or rather from the materiality of the page to the immateriality of digital texts. As a result, readers may dismiss traditional reading, preferring complementary modalities – such as playing with textual clues and artifacts disseminated through the pages, and searching for more information on the internet – which render them more similar to *gameplayers*. *S.* does not represent an attempt to escape from, or transcend, the medium of the book, but, rather, indicates the persistence of the materiality of a literary text: it reassembles the text in its ludic reification. In this context, the printed page works as a medium that absorbs the narrative trajectories of other media. The technology applied to literary narrative and its material supports triggers a series of changes in the idea of the traditional literary text, and these changes are also reflected in the way we organize thoughts, fiction and knowledge. The traces of these changes emerge first of all from the transition to hypertext in the setting

of the narrative structure, well absorbed in the intertwining of narrative form and technological imagery of postmodern literature: «new writing technologies would provide the opportunity to prove and test the limits and the possibilities of the postmodern Weltanschauung» (Ferri, 11 translation mine).

Postmodern literature, indeed, foresaw and prefigured the profound implications regarding the impact of hybrid media and the computerization of expressive forms in our culture and in the way we organize knowledge. It is not by chance that David Foster Wallace, in his masterpiece *Infinite Jest* (1996) took the inspiration from the futuristic imagination of George Gilder to introduce a new kind of media, called “teleputer”, which creates an “on demand” system to watch movies and TV shows, thus leading the audience towards addiction. In the Nineties, Gilder predicted a new technology that mixed television and computer and Wallace narrativized it, anticipating the idea of what today is a well established media model represented by YouTube, Netflix and other online streaming platforms. Therefore, we may claim that media technology shapes literary imagination and symbolic constructions, and it also generates new ways of organizing narrative as technotext, a term that indicates the ways with which “literary work interrogates the inscription technology that produces it” (Hayles 2002, 64).

For example, we can find a rhizomatic structure in *Gravity’s Rainbow* (1973) by Pynchon, where multiple extraliterary codes (musical scores and verses, frames from imaginary movie scripts, mathematical formulas, etc.) interact with the several and centrifugal plotlines; or we might find the refined interlocking of micronarratives in DeLillo’s *Underworld* (1997), which reconstructs in a non-chronological way a precise historical period in the USA, or the axial structure in Wallace’s *Infinite Jest*, where narration and reading are often interrupted by very long footnotes, appendices and short essays about media innovation (e.g. the commercial flop of videophones in the eighties, etc.).

Trans-mediality and trans-materiality

According to George Landow, the hypertext is a form of non-sequential writing that can be spread via electronic and digital devices (screens, computers, etc.). The hypertext develops from textual extension systems historically included on the printed page (footnotes, index, glossary, etc.), and, thanks to the electronic recodification of text in *cybertext*, dizzyingly increases the informational content of a word with a multiplicity of verbal and non-verbal data. Therefore, hypertexts easily turn into a *hypermedia form* by virtue of their capacity to link a *lexia* to “visual information, sound, animation, and other forms of data” (Landow 2006, 3). It is not by chance that Landow has developed his cybertext narratology theories using, in parallel, an hypertext software called *Intermedia*; subsequently, this was fundamental for Tim Barnes-Lee’s work on the textual and writing-reading system of the World Wide Web (the *hyperlinking system*). To Landow and Delany, indeed, hypertext and hypermedia are seen as a revolutionary logic for organizing the texts formally “by making visible and explicit mental processes that have always been part of the total experience of reading” (Landow and Delany, 2001, 209). From a comparative perspective, Luca Toschi traces the continuities between electronic text, hypertext and traditional literary text, noting how “By means of the language of hypertexts, it is finally possible to make manifest what has always been done in practice, to create systems where connections that paper can only suggest to the mind are physically realizable and accessible to manipulation” (Toschi, 1996, 202).

An attempt at a total reading experience can be traced in the Augmented Reality performative adaptation of the book *Tino’s Nights in Baghdad* (*Die Nächte der Tino von Bagdad*, 1907) by Else Lasker-Schüler, by the Italian video-artist duo ConiglioViola (Brice Coniglio and Andrea Raviola) in 2016. The adaptation makes use of Augmented Reality (AR) technology for the visual translation of the original text into a moving image, and *locative media* for a narrative texture strongly focused on the

spatial dimension (Greenspan 2011; Farman 2014). The images taken from the book were disseminated in a series of posters put up at bus stops in the cities of Turin and Milan; users could access audio-visual content to be viewed on smartphone screens by framing the posters with their devices, where the Augmented Reality app converted them into short videos.

The discovery of the disseminated contents is then shared by the “user-reader” on the web platform set up by the video artists. In this way, the order of the micro-stories of the original text is re-arranged in the sequencing produced by the routes chosen by the individual participants, resulting in a re-writing comprising various trajectories and paths: “when we experience territories, we create stories. We model these stories using mental maps, referring to one person’s point of view perception of their own world, influenced by that person’s culture, background, mood and emotional state, instantaneous goals and objectives” (Iaconesi & Persico 2018, 277). This procedure is clearly inspired by the experiments of “combinatorial literature”, geared towards restructuring the text within a certain number of possibilities, the aim being to multiply the number of narratives, with the reader thus being assigned a co-authorial function.

The use of a web platform is one of the modes of preserving and archiving the experience of augmented literature. Other modalities are arranged within the project and aim to link the transmedia structure of the work with a “trans-material” attempt to transform the virtual dimension of the Augmented Reality adaptation into material supports and to depict the multiplicity of paths in a single exhibition space. The materials of the project (texts, engravings, backstage images, etc.) have been collected in a hand-bound “artist’s book”, with a limited distribution, reinterpreting the craftsmanship that permeates not only the creation of the videos, but the entire adaptation. Thus, the book becomes the medium employed in the material archiving of ConiglioViola’s virtual operation, re-organizing the non-sequentiality of the reader’s experiences in a progressive arrangement of texts and contents. Similarly, the twenty-six engravings on copper plates, on which the installation videos were devised, were exhibited in a number of art galleries; they were removed from the context of urban dissemination and arranged in a conventional exhibition modality, recomposing the visual materials as paintings, as individual stages along a route. This return to the material nature of the book and convergence in a single space does not, however, exclude the component of augmentation of the entire operation: both in the support of the book and in the paintings on display, by framing the images it is possible to resuscitate the videos in Augmented Reality, reproducing in another space and in another medium the disseminated narrative experience, albeit deprived of the performative component.

Disseminated and organized trans-medially in space, the virtual is thus reworked in forms that transform the ephemeral component into a material construct, a sort of “old medium”: the page, the painting. In this way, the trans-medial experience shaping the adaptation of *Tino’s Nights* becomes an example of how the convergence of diverse, albeit not conceptually opposed media, polarized between the ancient and the contemporary, establishes the literary experience as a privileged praxis for understanding the expressive and alluring narrative possibilities of present-day digital media.

Narrative machines

In his seminal essay, *Writing Space: Computers, Hypertext, and the Remediation of Print* (1991) David Jay Bolter refers to the way in which narratives and communicational forms negotiate textual spaces through the evolution of technology. Bolter places the printed page in a renewed circuit of remediations: “hypertext and other forms of writing remediate the forms and genres of print” (xii). To Bolter, remediation is not a matter of taking a stand against print, but rather of realizing the unique capabilities and rhetoric of hypermedia. Every change in the technology of writing has brought changes to the culture that produced them;

above all, it defines new conceptions about writing, authors and readers. Obviously, the rise of the world wide web and the html code has accelerated cultural change, even in how narratives are structured.

Following the traces of the extension of the “narrative turn”, Christian Salomon (2007) notices that in every contemporary medium the construction of reality is engulfed by a narrative thread filtering perceptions and stimulating emotions. To Salomon, storytelling cements reality with the artificiality of the stories, saturating symbolic spaces; it outlines behavior, directs flows of feelings and synchronizes their circulation.

Narrative is by nature open to experimentation, with the aim to engage the audience, whilst giving them the opportunity to interact to varying degrees with stories and texts; this is precisely what happens with Alternate Reality Games and other hybrid web-native media formats based on the interactivity of storytelling borrowed from gaming and videogame fields. According to the definition by Jane McGonigal (2011), an Alternate Reality Game (ARG) is an interactive narrative that mixes elements of the real and physical world with the virtual patterns and actions of online gaming: the concept of alternate reality is becoming more and more central to discussions about the future of games. It’s helping to promote the idea that game technologies can be used to organize real-world activity. Most importantly, it’s provoking innovative ideas about how to blend together what we love most about games and what we want most from our real lives (125).

ARGs promote a creative clash between real and virtual performance. A kind of total entertainment is designed (and often used) both for educational purposes (the *serious games* whose contents aim to increase knowledge about social and ecological topics) and mainstream entertainment, such as Hollywood films (Spielberg’s *A.I.*), videogames (*Doom’s* paratextual game *I Love Bees*), rock music (the concept album *Year Zero* released by Nine Inch Nails). The main characteristics of the totalizing ARG experience is a grassroots collaboration between players. Thus, the plot assumes the formal properties of a collaborative fictional world, in which players can enter through scattered access points, suggestively called “rabbit holes.” According to the definition of *ergodic literature* by Espen Aarseth (1997), the lure provided by ARGs lies in a nontrivial effort by the player, who is able to move through an intrigue of interrelated media poly-textualities.

In these hybrid media the text turns completely into a hypertext that forces authors and readers to carefully negotiate reading paths and to accept the corrosion of the binary economy of reality/virtuality, offline/online, materiality/immateriality.

The online remediation (Bolter and Richard, 1999) of the printed page stimulates creative ways to open up storytelling to interactivity; there is a fundamental difference between the printed novel and an interactive web novel.

One of the aspects of dynamism finds a suggestion in the models that Jens Frederik Jensen traced in his fundamental article *Interactivity. Tracking a New Concept in Media and Communication Studies* published in 1998 (Jensen, 1998). Jensen analyses four kinds of interactivity in media texts: transmissional, consultational, registrational and conversational. In each of these he illustrates the ability of the user to modify both the textual structure and the content from a minimum (transmissional) to a maximum (conversational). It is easy to imagine how, nowadays, these four forms may be easily embedded in a single, multimedia, expanded text, especially if we consider, as the sci-fi novelist Douglas Adams stressed in his article *How to Stop Worrying and Learn to Love the Internet* (1999), that media has always been interactive, except for the mass-media entertainment of the last century: “during this century we have for the first time been dominated by non-interactive forms of entertainment: cinema, radio, recorded music and television”. Since the nineties, the remediation of media through computers has opened new content-design opportunities that substantially reduce the passivity of the viewer/audience.

According to Brenda Laurel, interactivity engenders a solid relationship between a performative dimension of one medium and the com-

puter efficacy in generating emotional experiences, immersing the user in “imaginary worlds that have a special relationship to reality – worlds in which we can extend, amplify, and enrich our own capacities to think, feel and act” (2013 [1991], 39).

Analyzing the impact of the computer in the remediation of the literary text, Bolter underlines the shift from the textual to visual as a prevalent modality of the web 1.0 (the web defined by search engines, such as Google and interactive websites). Nowadays, in web 2.0 (the web defined by the rise of social media and media convergence), forms of an even more articulated remix between image and words, between visual and textual, tend to exhibit the software nature of digital texts and the mechanism of their production. As we shall see in the next examples, the future of the web, the so-called Internet of Things (or even in a provocative way, the Internet of Me), aims to improve remediation processes by deepening the immersive strategies to engage users, just as Laurel predicted.

Interactivity leads to the ideas of gamification as a way to approach and consume the multilinearity of hypertextual narratives, as is well demonstrated by the intriguing interrelations between gamebooks, comics and videogames converging within Virtual Reality (VR) environments, where paperized media, such as books and comic novels, became just one of the virtual worlds incorporated into computer graphics. Relevant examples are the adventure virtual reality game *Nanite Fulcrum* where the player explores a comic novel in a virtual space, and the digital vignettes work as entry points to the story, disrupting the model of linearity of the traditional comic strips; or *Magnetique*, a sort of adventure/exploration set in the past, organized as a comic series specifically designed for VR headsets. However, this is not a simple comic e-book that has been converted into the format of virtual reality. Rather, it is a real 360° experience with a narrator and gyroscopic scenes. Another interesting case of transcoding printed paper into an apparatus for an immersive world is the *Madefire* startup, which has delivered BD VR, an application which allows cartoonists to turn their comics into a 3D experience. The case of comic novel is very interesting and representative of the intertwining of technology and textuality, as it offers a completely new narrative grammar for comic artists.

Paperized media technology is continually involved with hybridizations and experimentations, which contribute powerfully to dropping the idea that language-based narratives are hierarchically superior to others, and generally considering the book as a landmark medium as regards its contents; as we have seen, in *Nanite Fulcrum* or *Magnetique* the comic novel is neither browsed nor read, but “experienced” through Virtual Reality devices.

We can see media textualities liberated from the eligible media that was traditionally assigned to that specific content. Following this perspective, another interesting example is the project of augmented poetry “Between pages and screen”,¹ which works to engage the reader with a new book interface developed through Augmented Reality. Through the eye of a machine (a web cam) the signs and hieroglyphics printed in the pages (graphically recalling QR codes) turn into calligram verses on the screen; in other words the modern tradition of iconic-texts is neatly upgraded and remediated in the new direction of hybrid visibility of Augmented Reality, where surfacing images blur the edge between reality and virtuality, material and non-material information.

These examples lead us to the question asked by Bolter: “Why should a writer be forced to produce a single, linear argument when the writing space allows a writer to entertain and present several lines of thought at once?” (1991, 114). It also impels us to answer with another question: “why should a media content designer be forced to produce a mono-media argument when the contemporary media-sphere allows to entertain and engage audience with a multiplicity of media storytelling?”

We have just briefly touched some terms, *hypertext*, *interactivity/gaming*, *re-mediation*, *trans-mediality*, that work as a starting point

to re-configure the traditional figure of the reader within the tendencies of the computerization of storytelling. The traditional concept of the reader is reconfigured in more accurate terms, as user, player or explorer of media narrations and media storyworlds.

An analysis of the computerization of storytelling also investigates the creative writing process as if it were attributable to Artificial Intelligences. We can find “traces of theories of singularity” in the recent Japanese experiment *The Day A Computer Writes A Novel*, where a team of writers helped an AI to create a system of automatic writing based on a combination of words and phrases that were put together by complex algorithms. Another example is the intriguing road trip novel *Narrated Reality*, constructed by a GPS system installed on the roof of a black Cadillac and supervised by a former ghostwriter from the Obama administration, who gives the machine a series of literary patterns. The road was used as a conduit for narrative experimentation, in the tradition of Kerouac’s celebrated novel *On the Road*, but with the vehicle itself as the artist, although programmed by humans.

Both cases indicate an intrinsic dialogue between man and machine, not for problem solving but to investigate the creative skills of the machine, in a way that puts combinatory algorithms first. It is not a complete novelty, but rather sounds like a mechanical upgrade of the Oulipo experimentations in the sixties. If we wished to find a narrative model imbued with electronic interventions that extend the concept of text for the organization of knowledge through hypermedia issues, we may read Michael Joyce’s cybertext novel *afternoon, a story* (1987). It is generated by Storyspace – a software for creating, editing, and reading – and the plot changes following the user’s choices, each time generating different narrative paths. As Bolter states: “Afternoon combines the literary sophistication of a printed work with the immediacy of computerized adventure game [...] it is constructed so as to remind the reader of the origins of electronic fiction in the computerized adventure games” (1991, 123–125)

Moreover, the circulation of this novel was heavily computerized; in fact, due to the limitations of the range of Internet in the Eighties, *afternoon, a story* was first distributed via floppy disks and subsequently on a USB pen-drive.

With this last example it is easy to imagine the role of digital media to renegotiate the relationship between texts and visuals, especially through hypertexts, interactive storytelling and gaming attitudes, converging into the remediation of the book and its reading via digital devices. We do think that the hypertext has played a leading role in the concretization, both material and abstract, of an expansionist, anti-hierarchical and associative logic for interacting with the world.

With the hypertext, in fact, literature and textual structures confront a society characterized by the explosion of data and information. We might say that the hypertext covers a triple role: 1) a new conception of textuality and culture; 2) a logical form to encompass the expansion of human experiences and knowledge; 3) the main structure of the computerization of texts and narrative forms and contents.

Mark Amerika’s GRAMMATRON: Link therefore I am

To explore the computerization of storytelling, it is worth mentioning the experimental works by Mark Amerika, which are useful for observing the transcoding of traditional language-based narrative into visual-computerized text narrative. Mark Amerika’s unceasing search in challenging the frontiers between media languages and literary conventions finds, in the exploration of the limitations of the page, the tool to generate immersive and interactive experimentations, and it allows us to investigate modes of overflowing intermedia content productions.

We would like to consider two works from Amerika’s rich, artistic and eclectic production, *GRAMMATRON*, and *Remix the Book*, as examples showing us how intermediality becomes not only an artistic expression tending to the *Gesamtkunstwerk*, but also a theoretical thought

¹ <https://www.betweenpageandscreen.com/>.

to express the complexity of aesthetical experiences in contemporary media contents.

With *GRAMMATRON* Amerika investigates the hypertext not only as technology of writing, but as new concepts of textuality and consciousness. *GRAMMATRON*, indeed, is the formalization of an *Hypertextual Consciousness* that points to the liberatory power of cyberspace, where writing establishes a mutual relation with the machine. According to Amerika, *Hypertext Consciousness* leads the science of writing into cyberspace, where language is then able to expand and have fun with the machine.

Mark Amerika's *GRAMMATRON* – produced in collaboration with Brown University and exhibited in 2000 as a net art-work at the Whitney Museum of American Art – is a mystical, cyberpunk novel set in a technological future marked by the birth of a new kind of virtual super-intelligence. The narrative project is a hypertext-novel masterpiece; it has 1100 textual elements and 2000 hypertextual nodes mixing different media languages and formats, such as still and moving images, GIFs, and more than forty minutes of nightmarish electronic soundtrack released via Real Audio 3.0. Here, the reader – or “surfer” – moves through a dense mass of nodes generated by words and images, in an infinite hypertext network. Because of the wide range of narrative directions, the surfer will experience the total dissolution of narrative linearity and, also, the ineluctable loss of the self.

Computerized textuality might be understood as an anarchic way of opposing liberated writing spaces to the industrialization of society. Hypertexts are considered not a product, but a process for the expansion of human imagination through a new concept of textuality, which refuses as much as disrupts uniqueness, linearity and the idea of a center of the traditional text. Cyber and electronical texts nourish a new conception of textuality and culture, because, as Amerika writes, “Hypertext, as concepts, suggest an alternative to the more rigid authoritarian linearity of conventional book-contained text in which the modes of capitalistic production – i.e. industrial assembly line - are recognizable as a watermark if compared with narrative and reading linearity”.²

The disruption of literary conventions is designed to provide an exploration without control of narrative frontiers. As Amerika peremptorily states on the project's website: “Hypertext consciousness in cyberspace is creating a new form of narrativity to get lost in”.³

Indeed, *GRAMMATRON* embodies a hallucinatory computerized storytelling in which the story is also a technological dream where A.I, gendermorphs, and cybernetic sex are closely connected to the cyberpunk atmosphere; however, in contrast to cyberpunk novels, where technology is symbolized, Amerika attempts to let technology write and speak directly. It seems that hypertextual narratives tend naturally towards hallucination, because textual worlds and spaces need exploration, and the reader needs even more immersive and pluri-sensorial experiences in order to escape from a traditional and monotonous use of media. Therefore, the narrative dimension coincides with the exploration of textual spaces generated by writing technology and also with a journey through a multiplicity of interfaces.

Remix the book: Remixology and trans-codification

Remix the Book is probably Mark Amerika's most eccentric project. It aims to transform the paperized media of the book into an augmented space, and although the book seems to be central, this project illustrates how the concept of the book will be naturally pulverized through its “remediations” in cyberspace. *Remix the book* is not based on a hypertextual link format, but rather it explores the potential of cut and remix for an affirmative politics of publishing, to challenge object-oriented and modular systems.

Amerika selects sampled phrases and ideas from visual artists, poets, novelists, musicians, theorists, comedians and philosophers who have influenced his creative practices. He combines earlier theory, avant-garde and art writings through collage, sampling and remix.

Remix the book is not a book per se, but a hybridized publication and performance art project that appears in both print and digital forms. It is published by a university press, and it articulates a form of patchwork and collage throughout the twelve essays composing the book. The book is extended through an online platform and other digital forms, such as Twitter feeds to which new artists and thinkers are asked to contribute on a weekly basis.

The online platform features multimedia remixes from over 25 international artists and theorists who were invited to contribute a remix to the project site, based on selected sample material from the printed book. By bringing together this community of diverse practitioners, performing and discussing the theories and texts presented in the book via audiovisual and text-based remixes published on the website, Amerika opens up the book and its source material for continuous multimedia re-cutting.

As Barthes remarks in *S/Z*, “the text lives the plurality of allusions, it lives as it was a network of meanings infinitely opened to interpretation” (1990 [1973], 10). It seems that *Remix the book* impels the Barthesian concept of open text towards a sort of infinite open book.

Amerika experiments a new form of new media writing, one that constitutes a crossover between the scholarly and the artistic, and between theory and poetry, mixing these different modalities. The mixture of “applied remixology” and transmedia extensions – from the printed page of the book to the virtual ones – leads this provocative project to insistently question the limited nature of the printed book and its fixity and authority. Therefore, the book becomes only a part of a developing notion of performing theory: not the place where theory is organically systemized, rather where it is deconstructed and pulverized, in order to augment its efficacy in relation to the contemporary complexity.

Conclusion

Following along the lines of the postmodernist attraction for technology both as subject of narrative imagery and an agent of textual transformation, we examined the fields in which fantasies about computerization are etched directly on textual form, generating rhizomatic and interactive narrative structures and paths. The transcodification of the printed page into digital demonstrates how textual forms are open to including the voices, practices and experiences of different converging media, putting the transformations and multimodal expansions of traditional writing spaces first. The examples we analyzed illustrate the central role of inter-mediality as a category for literary criticism and theoretical rethinking of historicized notions. *S. – The Ship of Theseus* focuses on an *intermedia dimension*, where the book as medium is no longer isolated but rather relocated in a network of interoperating medialities. The book became conceivable as a “paperized” medium in which other media, especially digital ones, converge formally, visually and haptically within the printed pages, in order to oppose “analogue resistance” to the postmedia dematerialization of physical supports. *Tino's Nights in Baghdad* by the Italian video-artist duo ConiglioViola shows how the virtuality of narrative experience is linked even more closely to the configuration of the spatial dimension. The dialogue with the traditional form of adaptation from the page to the screen and the geolocate techniques of Augmented Reality provide the opportunity to explore the cities as multilinear and casual textual space, putting the experience of the reader at the centre of a performative network of different medialities and artistic realizations positioned between reality and virtuality.

The several Virtual Reality game experiences mentioned throughout the essay focus on the fluidity of traditional textual forms in non-physical environments, exploring interactivity and its textual spaces in

² <http://www.markamerika.com/ica/Work07.html>.

³ Ibid.

an immersive way. On the other hand, narrative machines such as writing software, with which the exploration of the creative possibility by A.I. and algorithms is rendered possible, illustrate the converging point of the natural and artificial for the construction of knowledge.

In Mark Amerika's works we find Lev Manovich's idea that the computer is a machine that exhibits and distributes media, and also a machine for the production and storage of media, and computerization; it "not only leads to the emergence of new cultural forms such as computer games and virtual worlds, but redefines existing ones such as photography and cinema" (Manovich, 2001, 35). The computer is also a machine that might maintain the same subversive attitude that was foreseen by cybernetic and informational philosophers after the Second World War, such as Alan Turing, Claude Shannon, Vannevar Bush, Ted Nelson, Timothy Leary, etc. The computer is not only technology capable of reproducing the modes of industrial and post-industrial production, but a meta-medium able to illustrate the meta-discourses of our imagination and design the intermedia storytelling through which we attempt to confront and understand the complex varieties of contemporary representations and narrative media objects.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT authorship contribution statement

Massimo Fusillo: Conceptualization, Writing – original draft. **Mirko Lino:** Writing – original draft.

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