

This version of the article has been accepted for publication, after peer review, but is not the version of record and does not reflect post-acceptance improvements or any corrections. The version of record is available online at: <https://rdcu.be/e5iii> [<https://doi.org/10.1007/s11059-024-00749-6>]. Use of this accepted manuscript is subject to the publisher's accepted manuscript terms of use, available at <https://www.springernature.com/gp/open-research/policies/accepted-manuscript-terms>.

Title

Electronic literary creation: dialogues through cultural recycling

Author information:

Laura Sánchez Gómez

Department of Didactics of Languages and Arts. University Complutense of Madrid.

Madrid, Spain

laurasanchezgomez@ucm.es

<https://orcid.org/0000-0001-8934-5360>

Title

Electronic literary creation: dialogues through cultural recycling

Abstract:

This article analyzes digital recycling as a cultural strategy through which it is possible to recognize the dialogue between popular digital culture and the most avant-garde electronic creation. Due to its experimental nature, electronic creation provides conceptual and aesthetic strategies to understand and analyze digital cultural processes. This work analyzes the processes in which recycling becomes a protagonist. The strategy of cultural recycling is not novel. It proposes a reconfiguration of the viewer's gaze in front of the work that starts from the historical avant-garde and has a critical intention towards the concept of authorship, the canon, and originality of creative processes. Nevertheless, through the study of the characteristics of the digital ecosystem, we show how the practice of recycling changes considerably, acquiring great prominence and becoming a defining feature of digital cultural behavior today through the naturalization and automation of its processes.

Keywords: Electronic literature; Electronic art; Cultural recycling; Remix; Postproduction.

Acknowledgements: This work has been carried out as part of the Research Project REC-LIT. Cultural recycling: Transliteratures in the postdigital era (Reference: RTI2018-094607-B-I00), financed by the ERDF/Ministry of Science and Innovation - State Research Agency.

1. Introduction: the digital culture of recycling

This work addresses the study of recycling and postproduction as dominant logics in popular digital culture through the analysis of electronic literature and digital creation.¹ Its self-reflecting nature makes it an ideal field for experimentation with the cultural practices of digital creation and circulation. It is interesting to analyse how these new electronic, hybrid and experimental forms reflect the cultural behaviour and dynamics of recycling, which dominate the context of the Internet and which affect the models of online reading, writing, and the forms of cultural production and circulation. The concept of recycling used in this work refers to a digital cultural practice that manipulates existing

¹ By electronic literature, I mean a set of varied avant-garde practices that are located between art, literature and IT. Although the scope of electronic literary creation ranges between various terminological, critical and institutional discussions, its pathway has been sufficiently legitimised by the field of electronic or digital literature, which is supported by institutions such as the iconic Electronic Literature Organization (ELO) and the library of electronic literature in Spanish, CIBERIA. The works which have tried to define electronic literature include the seminal book by Katherine Hayles, *Electronic literature: new horizons for the literary* (2008), and the recent volume by Scott Rettberg, *Electronic literature* (2019), which covers the main genres of electronic literature and the definitions issued over the years by the ELO. For the launch of their first literary anthology (*Electronic Literature Collection* 2006), the ELO decided to define the set of works included as works with important literary aspects which use the capacities and contexts provided by computers or the Internet. We can also track the development of these practices through the works they gave rise to: from the first hypertextual narrations such as *Patchwork girl* by Shelley Jackson or *Afternoon, a story*, by Michael Joyce, to hyperfictions such as *Hotel Minotauro* by Domenico Chiappe, transmedia fictions such as *Kublai moon* by Belén Ganche and projects of distributive narrative like *Skin* by Shelley Jackson. Also, emerging from the tradition of the first automatic or generative creations are works like *PAC*, by Eugenio Tisselli, and *Beyond the fence*, a computer-generated musical led by Pablo Gervás; and, from traditions of kinetic or animated poetry, such as *Strings*, by Dan Waeber, the works of the Korean group Young-Hae Chang Heavy Industries, the hyperfiction *Pry* by Samantha Gordman and the poetic games of Belén Gache in *Wordtoys*.

elements or materials and returns them into circulation.² The term alludes to a variety of different types of recycling and their forms (remediation, appropriation, collage, rewriting, etc.) as well as different strategies or actions that are carried out to achieve this recycling (including selection, remix, decontextualisation, postproduction, recirculation, etc.). As can be seen, recycling is an umbrella term to cover practices that are trending in digital cultural behaviour today. These include the rise of social media, viral processes of memes or gifs, the practice of remixing, the transmedia phenomenon, twitter bots, gamification, and data visualisation. They are all based on phenomena such as mass digitalisation, datafication, the logic of network circulation, the growth in the development of software and the adaptation and development of technological infrastructures. These practices have seeped into popular cultural imaginary. To a large extent, they are based on recycling and postproduction strategies that have become second nature for browsers, like Chrome or Firefox, and have modified concepts of culture, literature, and art.

Undoubtedly, these examples of recycling and their forms are practices which can be found in the analogue world.³ In fact, they have also been the subject of discussions and have had an important presence in the artistic practices of the historical avant-garde. However, they do demonstrate that recycling has come into its own in digital spaces. In other words, the logic of appropriating fragments and inserting them into other compositions takes on a different complexion, development and scope arising from matters such as the implementation and popularisation of the cut/paste commands developed by Lawrence Tesler at the end of the 1960s. These commands function as a metaphor of the concept of remixing (Adema 2018, p. 108) and pervade most of the cultural recycling practices on the Internet. Thus, materials of all kinds, including images, audios, texts, and videos, are extracted (copied or cut) and recontextualised (pasted and inserted) (Olson, 2014, p. 17) in the new derivative and interactive fabric of digital culture.

² The development of the concept of *postdigital recycling* proposed here is part of the theoretical work carried out in the REC-LIT project. It is set out in the repository *Strategies of cultural and literary recycling in the postdigital age*, in which the aim is to “observe, detect, archive and classify cultural and literary recycling strategies which are taking place in the postdigital age.” <http://repositorios.fdi.ucm.es/REC-LIT/view/generico.php?id=54&idpadre=54>.

³ The practices of collage by Picasso and Höch, the *Found Footage*, the *detournement* of Debord, and the *cut-ups* of Burroughs are only some of the most cited examples when similar analogue paths are traced in practices of remediation and cultural recycling.

Although the reuse and recombination of materials is a common theme of contemporary cultural practices, authors such as Eduardo Navas, Owen Gallagher, and Xtine Burrough (2015) are in favour of it becoming a field of study in itself. Its importance is demonstrated with the appearance of seminars, congresses, and volumes such as the iconic *Remediation: Understanding new media* (1999); *The Routledge companion to remix studies* (2015) and *Remix theory* (2012), by Eduardo Navas. They demonstrate a specific interest in associating terms such as remix or remediation (understood as recycling strategies or types) with the evolution and consolidation of digital technologies. This work argues that the reality of the digital ecosystem, which has become postdigital⁴ due to its extreme normalisation, represents the success of cultural recycling. Although recycling is constantly evolving, it has a leading role in the development of cultural forms, so much so that contemporary culture is coming to be considered in itself as the culture of the remix (Manovich, 2015, p. 138; Navas, 2012). Online artistic and cultural manifestations are linked to the concept of recycling. The intensification of recycling is addressed by authors such as Martín Prada, as is the change in the very logic of its use. Martín Prada states that digital collage is not only a question of cutting and pasting, but of transformation and reuse (2012, pp. 176–177). He therefore makes transformation, or postproduction,⁵ the basic characteristic of remixing behaviour in digital society and culture. Marisa Olson also believes that digital remixing transforms the avant-garde logics of appropriation, as browsing the Internet and the collection of materials are today transcendental and absolutely internalised habits to the extent that “the act of finding is elevated to a performance in its own right” (Olson, 2014). Moreover,

⁴ The term postdigital is used to refer to “a condition, state of things and quality which emerges after the rupture triggered by digital technology in the 1990s” (Llamas Ubieta, 2020, p. 1). In other words, it is a state or quality of normalisation of the digital, of it becoming invisible. As Llamas explains, “It is characterised by an everyday presence of the digital and of unprecedented computerisation, by its ubiquity (integrated into the environment and the subjects), and by the permanent connectivity and new analogue-digital continuities” (2020, p. 1). In this respect, the term is applied in a number of ways: in art and in the academic world, related to the exploration of hybrid materialities which return our focus to the analogue (Cramer, 2015; Martín Prada, 2017; Olson, 2014), and even to a critical reflection on aesthetics and digital creation as an avant-garde rallying call sustained by technical innovation (Cascone, 2000; Cramer, 2014).

⁵ Postproduction is the manipulation of audiovisual material, whether digital or analogue, traditionally associated with audiovisual editing and production in the cinema (the first industrial art). In its leap to the digital paradigm, it has ended up becoming a general aesthetic category, as explained by authors such as Bourriaud (2002).

when Kenneth Goldsmith famously states that the context is the new content, he suggests that digital media have prepared the way for an artistic and literary revolution based on increased broadband penetration, saturation, and huge volumes of language and images are made available to browsers for reuse (2011, 2016), so that the medium itself and its content become the focus of interest. The resulting new territory of abundance facilitates the reuse of the informational, visual, and textual context itself as content.

Although most authors support remixing as a practice of artistic electronic creation, others such as Vito Campanelli describe it as a minor practice, while acknowledging that electronic creation (or artistic practices which use remixing and therefore recycling as a reflexive exercise) is nourished by the behaviour of global popular culture. For these authors, the real change in digital cultural production, which has been taken over by the logic of recycling, is the boom in the mass use of recycling associated with social and popular creation platforms on which young people develop and share content (Campanelli, 2015, pp. 71–72).

Phenomena such as memes allow us to reflect on the arrival of recycling as a semiotic, rhetorical, and ideological tool in the collective imaginary and in social and political debate. They also reflect on its capacity to develop certain skills in the young (who are familiarised with its creation and dissemination), such as recognition, intertextuality, rewriting, and the creation of text-visual macros based on materials and elements found online. It is precisely the recognition of the model in the meme that allows its reappropriation and reformulation through recycling, and that is what gives rise to the memetic process. Ruiz Martínez uses the example of the well-known meme *Keep calm* (Ruiz Martínez, 2018, p. 1002), in which the identification of the whole constellation of variants is what produces the memetic semiotic structure. The recycling is not so much of content, but of the models underlying them.



Figure 2. Selection of memes with the slogan *Keep calm*. Source: *Know your meme*.⁶

Another example of the logic of digital recycling in popular online culture is the growth in videos and mashups on the Tik Tok network, which is threatening to displace YouTube, leader of the vlog explosion and the youtuber generation, as the star platform for the circulation of amateur videos. The #tiktokchallenges *viralise* thousands of user videos (which reuse the same idea or model) on the Internet. They are mixed, mounted, and edited in a postproduction process that depends on the formal possibilities provided by the tool and which are associated with a hashtag that facilitates circulation in the media ecosystem.

⁶ The page *Know your meme* is a website that includes the most viral memes and tries to contextualise their origin and evolution, tracking the variants which arise in the process of their circulation and appropriation. The selection of memes which is cited in this study corresponds to the example of *Keep calm*: <https://knowyourmeme.com/memes/keep-calm-and-carry-on>.

Mashup or audiovisual collage, the heir of found footage (Khun, 2012), is a recycling technique that saw its golden age in YouTube popular culture. Examples include the alteration of *Mary Poppins*, which transforms it into a horror film, or re-editions of *The shining* turned into a sentimental family weepie. This creative behaviour goes beyond the basic understanding of how to recombine material to create something new (2012, p. 4) (the essence of remixing); it produces movements that at times transgress the limits of intellectual property⁷ in the use of the recomposed parts. These phenomena are associated with the remixing, reiteration, fragmentation, and eccentricity Domínguez Leiva (2014) addresses as the structural, aesthetic, and ideological bases of platforms such as YouTube, which house decontextualised extracts of other content and media.

Moreover, YouTube has become a platform for experimentation and cultural transmission, which broadcasts videos and disseminates content that fosters new artistic and literary forms. An example of the new forms associated with the aforementioned forms of recycling is the appearance of the text stories (*Txt Stories*) and the example of *Lazy cat* (Fig. 3), the piece of txt stories by New Form Production. *Lazy cat* uses the video to disseminate small narrations based on the mechanics of chats like WhatsApp and in the dynamics of the use of mobile devices as a connected ecosystem in which photos, videos, chats, and social media follow on from each other and alternate intercommunications. In this way, *Lazy cat* is presented as a viral phenomenon that authors such as Leonardo Flores (2019) and Alex Saum (2020) link to the third generation of electronic literature associated with technical simplicity, the rise in the use of platforms, and the development of large audiences. This example not only represents a new model of reading, but a new format for writing, which allows users to create their own stories using these formal models.

⁷ The “remix culture” (Navas, 2012) has been addressed from the perspective of creative freedom and universality of culture in the area of intellectual property and copyright laws by authors such as Lawrence Lessing in the famous text *Remix: Making art and commerce thrive in the hybrid economy* (2008), in which he writes in terms of free culture, free software, and copyright in the reality of digital culture.

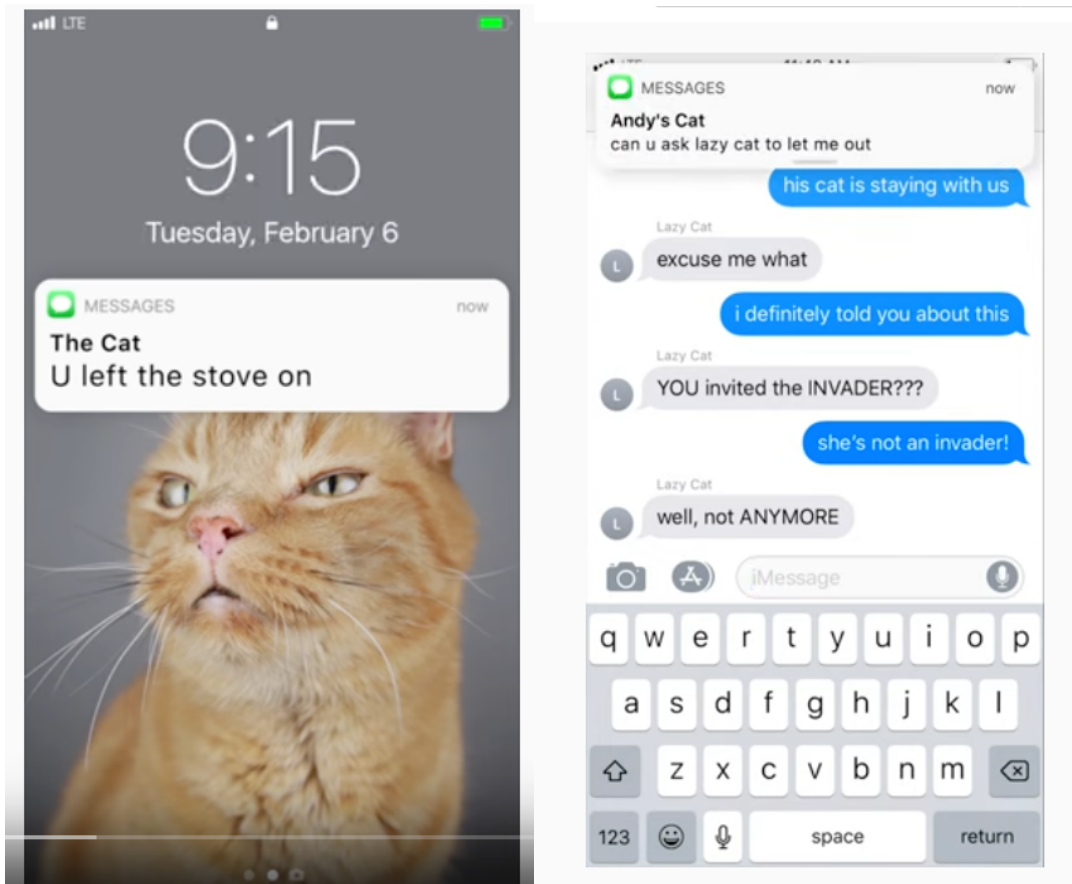


Figure 3. Images of *Lazy cat*. Source: YouTube.⁸

From the practices observed in the digital cultural framework and the reflections and theories included so far, it appears that recycling is a basic digital cultural practice in which strategies such as remix, remediation, and collection converge. This practice is based on a number of factors that emphasize the importance of its digital essence: the huge volumes of content in circulation available to Internet browsers; the automation of the process of their reuse through their selection and insertion with different modes and degrees of transformation; and the generalisation of the practice until it becomes extended, connected, and shared cultural behaviour.

2. Media characteristics of digital cultural recycling

⁸ The *Lazy cat* piece from Text Stories can be accessed via YouTube: <https://www.youtube.com/watch?v=k1cFI2YFiKU>.

Some characteristics of the digital society and the medium provide dynamics of recycling that go beyond artistic and poetic practice, embedding within behaviour of popular culture. The artists and creators not only construct by manipulating and recombining materials found online, but the digital essence of recycling has become normalised in the logic of their practice. To understand this, we will now address four basic questions of a digital or postdigital nature which affect the practices of recycling associated with the new digital culture. Our aim is to elucidate the change in paradigm in which recycling has become the characteristic model of digital cultural logic. Mass datafication, the circular nature of the media ecosystem, software as a medium and postproduction tool, and the boom in the fragmentation and loss of linearity are key factors of the digital nature that recycling utilizes as a phenomenon due to the malleability of the digital materiality and its circular condition. Without doubt, these are not the only characteristics of the digital or postdigital world, but they best explain the underpinnings of recycling as a digital cultural practice.

2.1. Datafication

The database is the new symbolic form that structures our experience and consolidates it as a basis for cultural practice by modifying its procedures. This is because all the objects in the world which succumb to digitalisation are modelled as data structures, ordered in constellations of units that can be related and articulated in different ways by forming databases. This idea, developed by Manovich (2001, pp. 49–50) and Scolari (2013, pp. 82–83), is associated with “digital representation,” or the numerical codification of cultural objects through computer languages, which is no more or less than the result of digitalisation as the principle of the database (Manovich, 1999; Drucker, 2011; Hayles, 2012; Sanz, 2018). In turn, all these datafied objects form files as dominant models of representation, but also of production (Olson, 2014, p. 15), can be reordered, manipulated, and programmed.

Today, digital society is based on datafication, as reflected in projects like *Big Bang Data*, an explanatory and research project curated by Olga Subirós and José Luis de Vicente. Notorious examples include the documentary, *The Internet Archive*, by Jonathan Minard (2012), a work on the biggest Internet archive in the world, which aims to preserve and store content on a huge scale. Collecting and filling hard drives is key, even if, as Jose Luis Brea says, we have passed from ROM culture to RAM culture (2007).

The value of these archives or memories lies in their relational quality; they are the material basis for all possible combinations and recombinations of the elements making them up, a quantum of reusable units.

2.2. Circulation

The second factor is the circulation of information and documents which Ferraris (2015) discusses, fostered by the convergence of media and platforms (Jenkins, Ford, & Green, 2013; Scolari, 2013; van Dijck, 2013). This favours a dialogue of transfers between “high culture” and popular culture. The circular logic illustrates the journey of the materials, which are transformed, expanded, fragmented, and derived. In this respect, the continuous flow of forms gives rise to recurring metaphors, such as the liquid society or culture (Bauman, 2004) or the return to a time dominated by a kind of secondary orality (Ong 1982), to sketch an ephemeral, mobile, and fluid digital culture in opposition to material permanence.

The possibility that materials, discourses, and imaginaries circulate through a variety of interconnected channels, media, and platforms leads to an ecosystem which allows the continuous appropriation and re-appropriation of content. The logic of circulation is therefore the logic of recycling, of individual and collective use. In this sense, the dynamics go beyond the medium and reach the artefacts or devices that are also transformed. From the exercises which establish curatorship as creative logic (the process by which a selection is made based on the circulating content available) to the creative processes associated with collage, mashup, and the re-composition and transformation of materials, we can see that behind these extended practices lie processes of digital circulation, which are characterised by participation, collectivisation, and by an extraordinary speed and unprecedented level of globalisation/universalisation.

2.3. Software as a medium

The third factor is the process of transformation and automation resulting from the predominance of software as a medium. In *Software takes command* (2013), Manovich presents a theory of media focused on how the software we use every day becomes media and proposes cultural techniques, aesthetics, operations, and products that are infinitely remixable. Most of the processes, such as the assembly of the materials, their transformation or transfiguration, addition of other semiotic languages or

composition, are carried out through software; and many of these techniques are automated and simplified for users.

Not only are our “productive” actions affected, but the software by which we browse on the platforms automate the filtering of options available for reading based on our own behaviour. The results of a Google search, the images shown to each Instagram user, and the visual guide available on Netflix are already the results of algorithms which combine commercial interests with the reading of our data and online behaviour (Manovich, 2015; Cheney-Lippold, 2019; Pariser, 2011). The convergence of domestic and professional software, characterised in the post-media age (Brea, 2005), and the mass use of a set of processes carried out on digital material in postproduction (Bourriaud, 2002) lead to many of these strategies spreading to the cultural imaginaries, giving rise to new creative forms and even new aesthetic currents.

2.4. Fragmentation

The last factor involved in digital or postdigital reality is fragmentation, which affects and determines recycling as a digital cultural practice. It emerges from the transformation of the aesthetic paradigms of the avant-garde and the evolution of postmodern approaches. Fragmentation and the loss of linearity are basic conditions for the renewal of contemporary imaginaries. Fragmentation as a characteristic of postmodernity enters into dialogue with the rhizomatic conceptions which anticipate the advent of the Internet and the overproduction of content, texts and images. These are the fundamental facts involved in the consolidation of paradigm changes in models and in meanings, as they change the way we understand and practice culture.

Coupled with technical advances, the intertextuality of Kristeva (1968), the rhizome and fragmentation of Deleuze and Guattari (1980), the end of originality as an artistic quality with the questioning of authorship and the smudging of forms which extend from the avant-garde to now (Goldsmith, 2011), and the retromania stressed by Reynolds (2011) as the cultural logic of the eternal return to origins are the seedbed of the fragmentation which is demonstrated in the revolution of processes and cultural forms associated with digital recycling.

2.5. Basic characteristics of digital materiality

In general terms, these are the conditions which lead to the digital not only evolving the practice of recycling, but transforming it considerably. As a conclusion to these four conditions of postdigital reality, we can point to two basic characteristics of digital materiality which underly the processes of cultural recycling. First, its alphanumeric structure, which underlies the code as digital or numerical representation (Manovich, 2001, p. 27), allows the objects to be altered through the modification of their parameters, rewriting the code. Second, its circular nature online makes it collective, open, and available for creative or spreadable processes (Jenkins, Ford & Green, 2013).

As a result, some authors argue in favour of the idea of artistic practices as a form of dialogue and position remixing within a symbolic-generative continuum which is in progress (Irvine, 2015, p. 33). Despite their use as a metaphor of a postmodern and “technological” method of production, they do not consider them to be exclusive to the digital medium. In this work, recycling is considered to be a defining characteristic of the contemporary cultural ecosystem that has gained a leading role (among other aspects of the nature of digital culture). For many, it has become a defining feature of the current cultural behaviour through process automation, similar to the culture of remix described by Campanelli (2015, p. 72).

3. Analysis of the automated actions of digital cultural recycling

Recycling is a privileged process for tracing new itineraries and paths created using existing materials, endowing everything that exists and circulates on the Internet with different meanings. The digital ecosystem fosters this shift from the production to the postproduction of images and materials, from creation based on originality to selection and composition based on recombination and the automation of procedures. As coined by Nicolás Bourriaud, who promotes the idea of creator as a semionaut who produces original trajectories behind signs (2002, p. 14), postproduction characterises a type of digital behaviour in which the creation is not only based on selection, accumulation, combination, and repetition, but also on the process of automated transformation. Automation is a process of standardisation and daemonisation of actions provided by software (Manovich, 2001, p. 32), which mainly affects the operations involved in the creation, manipulation, and access to digital content. Thus, the digital cultural recycling processes in their different operations are significantly affected by the automation of their processes, from the forms of access to circulating information and

material, to forms of selection, collection, transformation and postproduction, right up to the point at which they are recirculated.

Tik Tok’s boom is an example of the standardisation of postproduction as a creative strategy in digital production. This platform combines the logics of digital archives (a bank of elements to be selected and on which to browse) with the processes of postproduction that directly use remix, audiovisual montage and transformation. It exemplifies the circular logic that introduces a new element, a short fragment, into the sea of videos making up the platform’s network and which then operate as connectors, resulting in visualisations, likes, comments, and shares. Undoubtedly, the characteristics of the media ecosystem noted earlier enable finding, selecting, transforming or recontextualising, and recycling, but they also benefit the automation of the processes involved in the digital recycling. As a result, I propose here to divide these processes into three major groups to make the study of artistic practice in these areas clearer (see Fig. 4): actions associated with browsing and selection, actions associated with postproduction (with two degrees or levels of transformation in the materials), and actions associated with connection and circulation.

Automated actions in the practice of cultural recycling			
BROWSING AND SELECTION	POSTPRODUCTION		CONNECTION AND CIRCULATION
New forms of access to information, such as browsing, visualisation of large amounts of information, the scrolling, mosaic and thumbnails as an option for browsing and visualisation.	COMPOSITION AND EDITING	TRANSFORMATION AND VARIATIONS	Processes of uploading onto the Internet, platforms, virtual communities or social media. Circulation and recontextualisation in new processes that may include direct uploads, mentions, citations, tags and hashtags.
	Compositions, editing and combinations. Juxtaposition and amalgamation, mergers, mixtures, collages, configurations, hypertextualities and appropriations.	Transformation of materials, distortion, expansion, cutting/copying/pasting, rewritings, filters, cuts and reconfigurations. Modulation or variation of qualities and parameters.	

Figure 4. Table summarising the three automated processes in digital cultural recycling.
Source: own creation

By interrogating the concept of automation, it is possible to examine the three moments in time associated with the practice of digital recycling: the forms of access to the materials in circulation, the process of *creation* in itself, and subsequent circulation or connection. Whatever the actions involved, these recycling exercises are developed through the automation of their processes. In turn, this division is related to the explanation of digital cultural recycling through its relation to the characteristics of the postdigital culture mentioned previously: datafication, circulation, software as a medium, and fragmentation. All of them point to digital recycling as a phenomenon based on the malleability of the digital materiality and its circular condition.

Using these three *automated* processes of digital recycling and its presence in the artefacts of electronic creation that reflect on these questions, we analyse the electronic literature. The objective is not to list all the works of electronic creation that demonstrate these recycling strategies, but to analyse a set of works as examples of these procedures. Through these examples we will also be able to see the dialogue they establish with popular cultural practices, as they use the same logic or reflect the changes and transformations of digital culture.

3.1. Automated browsing and selection actions

Some works manifest the automated and naturalised processes related to the new forms of access to digital information. Navigation on the Internet in a process of derivative serendipity, and strategies of design and programming to visualise and browse among large amounts of data, images, and texts are reasons for reflection in electronic creation. The series *Googledrama* (2007), by Joan Fontcuberta, is composed of a set of pieces which use photomosaic as a compositional and aesthetic resource that manages to give form to a sea of visual results produced by web searches. This strategy serves to think of the association between words and images, as well as their classification through metadata or descriptions of the units of information which circulate on the web, conditioning our searches and associations.

Googlegrama 49: White on White (2007), uses 8,000 images found on the Internet and associated with terms such as “emptiness, nothing and zero” to recompose

the famous supremacist painting by Malevich. The work connects with the tradition of mosaic, which has had such an impact on the Internet, with the traditional search *par excellence* of Google, understood as an action that has become essential and dominates a significant part of our everyday behaviour online. In this composition, the parts lose their origin and are decontextualised, forming part of a new compressed space where the visual references corresponding to nothing, emptiness and zero evidence Manovich's digital modularity (2001) and compose a dense, cumulative space. The space is composed through automated search and selection, reflecting on the paradox of construction of a full space, saturated with references to *nothingness*. It is a kind of paradoxical game that points to the same representational vacuum of suprematism. Thus, cumulation and fragmentation are characteristics also associated with thumbnails, or miniature mosaics, in which the images are smaller links to themselves, a new version of the traditional mosaic that swamps the logic of platforms.

Other works are based on automated procedures on texts found via online searches. The work *IP Poetry*, (2006) by Gustavo Romano,⁹ consists of the development of a system of software and hardware that generates poetry using textual material found on the Internet using search instructions. These *recomposed* poems are then recited in real time by automata connected to the web and represented in monitors by enormous human mounts with programmed voices. The resulting poems are pieces made up of words or phrases taken out of context (the original website where they were found and extracted). In this sense, all references to the origin of the fragment are lost; it becomes part of a new whole: a poem that acquires a sense, or a non-sense, in itself. The space generated is the result of an automated process of recombination which, unlike the space of expansion of the hypertext, is compressed, amalgamating the alien *stolen* details which have been extracted and now compose a new sense in another context. It is like a new poem *trouvé*, like the cento, the *renga* or the exquisite corpses in their context, but using the logic of Internet search engines and the automated processes that structure the act of composition and recombination. This type of work plays with the processes of search, browse, and reuse of materials already existing on the Internet and question the actions of browsing, selection, and collection with which digital behaviour is imbued.

Alternatively, works may be produced based not only on the composition of existing materials found by automated or random processes, as in *Googledrama* or *IP*

⁹ <http://ip-poetry.findelmundo.com.ar/>.

Poetry, but also works which are the result of curatorship or selection of the object of attention, shifting from the automated generation of recycled spaces to the composition of spaces which collect materials carefully chosen and obtained, encouraging a dialogue between them. Examples of curatorship include *Not found exhibition* (2015),¹⁰ by Mario Santamaría and César Escudero Andaluz. This work combines representations of net art which are no longer available online. Searches for these items result in the familiar message, *Error 404. Not Found*. Another example is *To my wife* (2017-2019),¹¹ by Mario Santamaría, which uses an algorithm to collect examples of authors' dedications to their wives. The dedications are then re-composed into a minimalist and carefully finished publication. In this way, selection and re-contextualisation take a leading role. *Working on my novel* (2014),¹² by Cory Arcangel, fits in this vein. As in Santamaría's work, Arcangel's is materialised in a printed volume based on a twitter feed that retweets the best posts found with the phrase "working on my novel." These works demonstrate a current of postdigital creation that overflows the limits of the medium and materialises itself in analogue artefacts such as printed books.

These works are part of a generative current based on what Manovich termed in *The language of new media* as "automation of access" (2001, p. 10): a concern with the search for, access to, and reuse in a process of digital recycling of media materials that already exist on the Internet, including images, poetical texts, and publications on social media. These proposals anticipate, or perhaps reflect, the great success of platforms such as Pinterest or Tumblr, dedicated exclusively to the curatorship and collection of content which may be grouped according to concepts, themes, or categories.

3.2. Automated postproduction actions

Postproduction elucidates the malleability to which materials are subject in the digital recycling process: distortion, expansion, filters, cuts, and reconfigurations have become common procedures, together with modulation and variation of the qualities and parameters that configure the materials. This variation is characteristic of the digital transformation mediated by software. Phenomena such as GIFs or memes function as forms of artistic or literary production that bring us close to the world of amateur reality, in which the mechanics of creation do not depend more on the tools (programs and

¹⁰ <https://escuderoandaluz.com/2016/08/02/not-found-exhibition-com/>.

¹¹ http://mariosantamaria.net/to_my_wife/.

¹² <https://coryarcangel.com/things-i-made/2012-066-working-on-my-novel>.

platforms through which this content is generated) than the author. Thus, GIFs respond to the logic of editing, overlapping simple texts over sequenced images and creating a small video in a loop lasting a few seconds, which is read and spread quickly. Resources like filters (such as those in Instagram, which have popularised its own aesthetic of filters), the cut and paste of word processors, and the layers of Photoshop (which allow the juxtaposition of elements in editing) have become normalised, absorbed and incorporated into social platforms that promote the practice of composition and editing based on pre-configured strategies.

Among the works using these concepts are *MIDIPOet* (1999-2002),¹³ by Eugenio Tisselli. They are part of a current of software art in which the program is the work/tool that allows users to generate materials by themselves while composing and creating interactive pieces of visual poetry through manipulations in real time of texts and images. *MIDIPOet* is a software tool with two apps, the composer and interpreter, which may be downloaded and used free of charge. The composer app allows the generation of pieces that the interpreter can then interpret by executing them. The meaning and symbolic burden falls precisely on the creative possibilities provided by these *poetic machines*. Although limited (by their predetermined uses), they demonstrate precisely the recognisable frameworks that software leaves in the pieces created with it. In this same sense we could point out how this current impacts today on a new technology available to many, Artificial Intelligence, the basis of open generation programs such as Midjourney, or OpenAI's Dall-e and Chat GPT¹⁴ that are already having their effects on the current creation and of which we can only try to point to some of its future consequences. Thus, those automated post-production actions that we saw in *MIDIPOet* have suffered an evolution with the entry of artificial intelligence and the construction of

¹³ <http://motorhueso.net/midipoet/>.

¹⁴ The progress and impact of the use of Artificial Intelligences will have on artistic and literary creation is currently incalculable and although an in-depth reflection of this new development would require a study in itself, we do want to point out some significant examples in relation to the above, such as the musical generated by a computer program, *Beyond the Fence* (2016) by the engineer Pablo Gervás, or the publication of the book by Jorge Carrión made with Chat GPT, *Los campos electromagnéticos. Teorías y prácticas de la inteligencia artificial* (2023), which already advance in some way the analogy between the automation of literary forms, such as metrics, rhythm or structure, with the automation of the algorithm on a higher scale, thanks, in part, to those characteristics of post-digital nature that we mentioned earlier. For an approach to the topic of AI in the creative realm it is recommended, among others, the text by Arthur I. Miller, *The artist in the machine. The world of AI-powered creativity* (2019).

sounds, images and texts under automatic generation processes through deep learning based on neuronal networks. The results proposed by the algorithm are, in any case, the result of a mix or combination of all the data from which it is nourished and the creation of plausible hypotheses based on the norm of all of them, the common denominator. The long experimental tradition that played with the limits of creativity, authorship and process automation, now sees its culmination in a horizon that is absolutely transforming as well as homogenizing. In this line, authors such as Clara Boj and Diego Díaz are already thinking on the implication of these automations in our lives, not as small deviations in uses and practices, but more substantially, as circumstances capable of defining the future of our life trajectories. In their work *Machine Biography*¹⁵ (2019), they point to the implications of algorithmic prediction, by submitting their own data to a prediction of what their lives will be in the year 2050, resulting in a text-biography generated and printed in 365 books that are installed in the exhibition space.

In *Tutoriales para remendar el mundo [Tutorials for remedy the world]* (2015),¹⁶ Beatriz Sánchez ironically analyses the automated processes associated with image processing platforms and software, alluding to the processes of postproduction (Bourriaud, 2002) as simple and automated exercises to change social reality. The boom in the phenomenon of video tutorials forms part of a network of popular creations dealing with techniques for acquiring all kinds of skills, generalising disciplines, languages, and aesthetics, with all this involves for the transfer of cultural hegemonies. The rules are no longer programmed in the software code; they are in the process of learning and use, standardising imaginaries and models which are then repeated, accumulated, serialised, and connected on the web. Sánchez's proposal shows us a recording of the processes of image and video processing of one of the most popular programs. We see a work environment with multiple interfaces in which the image of a poor man in an urban street is transported to a sea-side paradise by way of drag-and-drop against the landscape background. The cut and paste procedures create another unreal and artificial recycled space in which two opposed scenarios are superposed. Based on the automation of postproduction, Beatriz Sánchez uses the Photoshop interface to speculate on how these parameterised and automated media have given rise to the practice of creating images and

¹⁵ <http://www.lalalab.org/machine-biography/>

¹⁶ <https://beatrizsanchez.net/tutoriales-para-remendar-el-mundo>.

narratives that are fundamentally different (Manovich, 2013, p. 125), but globally accepted and recognisable.

These works explore the logics of digital creation and reflect on software as the mechanism of possibilities and limitations. Through extended and recognisable formulas they generate a global aesthetic of recycling, both of materials and of the processes of their production.

3.3. Automated connection and circulation actions

Apart from the processes of selection (browsing or curatorship), postproduction, and editing, we also must look at the processes of propagation and connection associated with the circulation of recycled materials by audiences. The recycled spaces generated are formed within the dynamics of recirculation of materials online, but also form part of the media constellation through their sharing. It is a recursive and cyclical logic in which everything is prone to be used, transformed, and circulated once more, making it available for new appropriations. The processes of uploading materials onto the Internet are related to sharing these materials generated by users and their use as connective elements. This logic enshrines concepts such as “social”, “collaboration”, “friends”, “likes”, and “shares”, as it must be remembered that the platforms and social media have become connective media (van Dijck, 2013, p. 19). In this way, metadata or hashtags become descriptors and repeated commentaries, as well as social connectors and transformers like speech acts, converting the slogan into an authentic catalyst of social reactions online (Bernard, 2019, p. 79; Losh, 2019, p. 97). It is a process of circulation favoured by automatism such as mentions, quotations, tags, and hashtags.

The controversial Instagram performance by Amalia Ulman, *Excellences and perfections* (2014),¹⁷ reproduces through an avatar the most common stereotypes of female representation on the Internet. It uses the most common hashtags to position and connect its publications within the structure of the web, obtaining reactions, comments, and authentic followers during the fictional narrative of her search for fame, love, and the lifestyle of her dreams. The whole process of mediatised communication and interaction forms part of the work. This type of action, which aims to rethink the creation of narratives and common imaginaries through self-exposure in social media, reflects on the realities of popular culture such as the influencer phenomenon. Without doubt, what

¹⁷ <https://webenact.rhizome.org/excellences-and-perfections/>.

abounds in the logic of technification of society (Van Dijck, 2013, p. 19) is the presence of the self-image and the I as places of enunciation, reflected in works such as *#selfiepoetry*, by Alex Saum Pascual. The poem, “Sinfonía Documental” (2016),¹⁸ part of the second series of *#selfiepoetry* dedicated to the subject *#women&capitalism*, is an animated poem in which the idea of documenting vital online experiences is expressed through a space that is apparently simple and alludes to accumulation and overproduction in the digital space. In the poem, the black text on a white background is displayed, while we hear a variety of tones associated with social media, alarms and sounds that we normally associate with interactions, messages, relations, calls, or comments in our profiles and apps. In this way, the artist reflects on the circulation of our recycled personal production under automatisms such as the selfie (taken using a button which activates the front-facing camera) or the hashtag.

As these works demonstrate, there are works which reflect on the practices of digital creation provided by platforms that are then shared and uploaded onto the Internet in search of visualisations and reactions in a process of unlimited re-circulation and cultural sedimentation.

Conclusions

This work points to the cultural process of dialogue between the artefacts of popular digital culture that are based on recycling, respond to circulation and audiences, and use the ecosystem of platforms and the most conceptual forms of electronic creation (electronic literature) within the scope of artistic and literary experimentation. In the current milieu, the figure of artist as creator has been merged with that of the receptor-producer-prosumer-amateur reader/writer in an information ocean that has to be browsed and that serves as a basis for creative practices based on accumulation, combination, repetition, imitation, archiving, selection, transformation, and the production of itineraries and relations. In addition, strategies, languages, and media are no longer sufficient to differentiate practices considered artistic from those which belong to popular culture. It can therefore be observed as a main characteristic of the digital ecosystem that artistic practices have been absorbed by the cultural industries, which begs the question: how it is possible to differentiate them? In this process of cultural aestheticisation, the

¹⁸ https://www.youtube.com/watch?v=7FC-Wlh8Csk&feature=emb_imp_woyt

critical intention and its contextualisation within the process of reception is the only thing that differentiates them. This invites us to reflect on what the role of electronic creation is. Should literary and artistic practices serve to demonstrate the logics and contribute to their questioning as reflexive devices which reflect these tensions? In this analysis of electronic creation under the three processes associated with the practice of digital cultural recycling as a creative logic (browsing/selection, postproduction and connection/circulation), we have seen how automated processes of information access are evident in works that use automated search as a strategy. We have also shown how the processes of postproduction are questioned in works that make them visible or that function directly as tools from which to create through predetermined uses. Finally, we have demonstrated that there is a reflection in certain works about the circulation and propagation of recycled materials in a media ecosystem of platforms which favour the standardisation of forms.

The practices of digital artistic creation are tools that provide cultural and aesthetic strategies for incorporation by the most popular media practices and the audiences which adapt and incorporate them. At the same time, they are also reflexive practices which allow us to rethink cultural dynamics and use them to go beyond the simple click to look further into the logics of the digital processes and platforms that mediate our cultural behaviour. Thanks to this, recycling can be seen as a common phenomenon, based on automated digital processes that mediate forms of production, through which it is possible to engage in the dialogue established between popular digital culture and the most avant-garde electronic creation.

References

- Adema, J. (2018). Cut-up in In E. Navas, O. Gallagher, & X. Burrough (Eds.), *Keywords in remix studies*. (pp. 104- 114) Routledge.
- Bernard, A. (2019). *Theory of the hashtag*. Polity Press.
- Bourriaud, N. (2002). *Postproduction: Culture as screenplay: how art reprograms the world*. Lukas & Sternberg
- Brea, J. L. (2005). Transformaciones contemporáneas de la imagen-movimiento: postfotografía, postcinema, postmedia. *Acción Paralela*, (5), 1-11.
- Brea, J. L. (2007). *Cultura_RAM: Mutaciones de la cultura en la era de su distribución electrónica*. [RAM_ Culture: Mutations of culture in the era of its electronic distribution. Gedisa.
- Campanelli, V. (2015). Toward a remix culture. An existential perspective. In E. Navas, O.

- Gallagher, & X. Burrough (Eds.), *The Routledge companion to remix studies* (pp. 68–82). Routledge.
- Cheney-Lippold, J. (2019). *We are data : algorithms and the making of our digital selves*. New York University Press.
- Domínguez Leiva, A. (2014). *YouTube Théorie: Un vertige néo-baroque*. Les éditions de ta mère.
- Drucker, J. (2011). Humanities approaches to graphical display. *Digital Humanities Quarterly*, 5(1), 1–21. Retrieved from <http://www.digitalhumanities.org/dhq/vol/5/1/000091/000091.html>.
- Ferraris, M. (2015). Collective intentionality or documentality? *Philosophy & Social Criticism* 41 (4–5), 423–33. <https://doi.org/10.1177/0191453715577741>.
- Flores, L. (2019). Third generation electronic literature. *Electronic Book Review*. <https://doi.org/https://doi.org/10.7273/axyj-3574>.
- Goldsmith, K. (2011). *Uncreative writing. Managing language in the digital age*. Columbia University Press.
- Goldsmith, K. (2016). *Wasting time on the Internet*. Haper Perennial.
- Hayles, N. K. (2008). *Electronic literature: New horizons for the literary*. University of Notre Dame Press.
- Hayles, N. K. (2012). *How we think: digital media and contemporary technogenesis*. The University of Chicago Press.
- Irvine, M. (2015). Remix and the dialogic engine of culture. A model for generative combinatoriality. In E. Navas, O. Gallagher, & X. Burrough (Eds.), *The Routledge companion to remix studies* (pp. 15–42). Routledge.
- Jenkins, H., Ford, S., & Green, J. (2013). *Spreadable media. Creating value and meaning in a networked culture*. New York University Press.
- Khun, V. (2012). The rhetoric of remix. *Transformative works and cultures*, (9). <https://doi.org/https://doi.org/10.3983/twc.2012.0358>.
- Losh, E. M. (2019). Speech acts without speech: hashtag theory and electronic literature. In *ELO2019: Electronic Literature Organization Conference & Media Arts Festival, programme and book of abstracts* (pp. 97–98). Cork: ELO International Conference.
- Manovich, L. (1999). Database as symbolic form. *Convergence: The International Journal of Research into New Media Technologies*, 5(2), 80–99. <https://doi.org/10.1177/135485659900500206>.
- Manovich, L. (2001). *The language of new media. Leonardo*. (2nd ed.). MIT Press.
- Manovich, L. (2013). *Software takes command*. Bloomsbury Academic.
- Manovich, L. (2015). Remix strategies in social media. In E. Navas, O. Gallagher, & X. Burrough (Eds.), *The Routledge companion to remix studies* (pp. 135–153). Routledge.
- Martín Prada, J. (2012). *Prácticas artísticas e internet en la época de las redes sociales*. Akal.

- Miller, A. I. (2019) *The artist in the machine: the world of the all-power creativity*. The MIT Press.
- Navas, E. (2012). *Remix theory. The aesthetics of sampling*. Springer-Verlag.
- Navas, E., Gallagher, O., & Borrough, X. (Eds.). (2018). *Keywords in remix studies*. Routledge.
- Olson, M. (2014). *Arte postinternet*. Cocom Press.
- Pariser, E. (2011). *The filter bubble. What the Internet is hiding from you*. Penguin Press.
- Reynolds, S. (2011). *Retromania: Pop culture's addiction to its own past*. Faber & Faber
- Ruiz Martínez, J. M. (2018). Una aproximación retórica a los memes de Internet. [A rhetorical approach to Internet memes]. *Signa: Revista de La Asociación Española de Semiótica*, 27, 995–1021.
- Sanz, A. (2018). Para un comparatismo digital necesario: del relato al dato, del dato al relato. In *Nuevos horizontes de la literatura comparada: Comparatismo Digital*, 1, 33–40. Retrieved from http://www.selgyc.com/images/docs/02_sanz.pdf
- Saum-Pascual, A. (2020). Is third generation literature postweb literature ? And why should we care ? *Electronic Book Review*, 1–9. <https://doi.org/https://doi.org/10.7273/60pg-1574>.
- Scolari, C. (2013). *Hipermediaciones: elementos para una teoría de la comunicación digital interactiva* [Hypermediations: elements for a theory of interactive digital communication.] Gedisa. Retrieved from <http://ebookcentral.proquest.com/lib/universidadcomplutense-ebooks/detail.action?docID=4761457>.
- van Dijck, J. (2013). *The culture of connectivity: a critical history of social media*. Oxford University Press