ARTICLE

NODE "MEDIA ARTIVISM"

The AquaGranda digital community memory: activating climate risk awareness

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Recommended citation

Abstract

This study aims to explore how vulnerable communities, scientists and artists can collaborate to construct digital community memories to excavate opinion spaces related to socio-natural events, creating a shared and inclusive ground for mutual understanding and collective action. The proposed approach combines web archeology and digital artivism to construct community

memories that can be used for social activation in relation to climate change. The research draws on participatory and community-based research techniques, citizen-science approaches, and digital methods to collect dispersed community-memory fragments and create an expressive space for the diverse perspectives and needs of the affected populations. It emphasizes the importance of inclusivity and non-polarizing approaches for reconstructing and interpreting narrative streams that propagate in the physical and virtual world and for representing, through digital art, extreme events and their societal impact. To illustrate the proposed approach, the AquaGranda project is presented here as a case study of community memory related to an extreme event: the high tides that occurred in Venice in November 2019.

Keywords

new media archeology; artivism; digital community memory; climate change; extreme events

La memoria de la comunidad digital AquaGranda: activando la concienciación sobre el riesgo climático

Resumen

Este estudio tiene como objetivo explorar cómo las comunidades vulnerables, los científicos y los artistas pueden colaborar para construir recuerdos de la comunidad digital, para excavar espacios de opinión relacionados con eventos socionaturales, creando un terreno compartido e inclusivo para la comprensión mutua y la acción colectiva. El enfoque propuesto combina la arqueología web y el artivismo digital para crear recuerdos comunitarios que se pueden utilizar para la activación social en relación con el cambio climático. La investigación se basa en técnicas de investigación participativas y basadas en la comunidad, enfoques ciudadano-científicos y métodos digitales para recopilar fragmentos de memoria comunitaria dispersos y crear un espacio expresivo para las diversas perspectivas y necesidades de las poblaciones afectadas. Hace hincapié en la importancia de los enfoques de inclusión y no polarización para reconstruir e interpretar flujos narrativos que se propagan en el mundo físico y virtual y para representar, a través del arte digital, eventos extremos y su impacto social. Para ilustrar el enfoque propuesto, el proyecto AquaGranda se presenta aquí como un estudio de caso de memoria comunitaria relacionada con un evento extremo: las mareas altas que se produjeron en Venecia en noviembre de 2019.

Palabras clave

arqueología de nuevos medios; artivismo; memoria de la comunidad digital; cambio climático; eventos extremos

Introduction

The spontaneous proliferation on the web of multimedia materials related to extreme weather events is a clear signal of the impact and rising concern for climate change and for its life-changing effects on vulnerable communities (Roxburgh *et al.* 2019; Berglez & Al-Saqaf 2021). The voices of these communities seem to reach global audiences mainly through the online sharing of the documentation of such catastrophes (Stieglitz *et al.* 2018). However, silenced by the digital divide, some communities and groups impacted by catastrophic events related to climate change may tragically find themselves without a voice or presence in the political discourse, like children and elderly people. This lack of representation can further damage these groups. For example: by not allowing them to be recognized as climate refugees, or not being acknowledged, and economically and morally compensated for the damage suffered. When the representativeness of a population's voice is not guaranteed, new methods and practices for excavating both offline and online sources are needed for reconstructing memorials about climate-related events.

In this work, we highlight through which processes digital archivists, vulnerable and impacted communities, scientists and artists can collaborate in excavating opinion spaces related to extreme socio-natural events through the construction of digital community memories. This paper asks: how can digital community memories build on new media archeology and digital artivism? Our main objective is to expand the digital community memories framework for confronting climate-related challenges, acknowledging their impact and enhancing the community's risk awareness, starting from ground zero. In this sense, the proposed approach combines new media archeology and digital artivism for climate risk awareness.

On the one hand, new media archeology (Malloy 2016) allows us to dig into the narratives, interactions, memory layers and digital traces left by climate-related events. We transpose classical archaeological approaches and methods to the collection of these digital memory frag-

ments. In this way, we unfold an expressive digital space where media artivists can give voice to the point-of-views and needs of the communities affected by climate change-related events so that these painful memories can seed global awareness and social change. On the other hand, digital artivism (Zebracki & Luger 2019) helps to provide meaning to the stratigraphy of the data gathered in the community memory by reconstructing forward-looking memorials for socio-cultural activation.

We believe that, by drawing a series of parallels between classical and new media archeology, many of the methodologies and data strategies enacted for constructing a digital community memory can become intuitive tools to develop platforms where artivism can freely express itself. The view of new media archeology that we propose is more than a collection of methods and best practices: it is a social process based on the cooperation with artists, data scientists and socio-cultural designers unfolding a digital artivism space through community-based participatory design. In this sense, the role of creativity and sciences is understood not only as an expressive form, made by multiple languages each of which can be understood by a different audience, but also as a means for collective interrogation, investigation, debate and social activation. Digital community memories and their expansion are guided by distributed and coordinated archivistic and artivistic processes which propose wider implications for the space of community memories as socio-cultural organizations and community agoras.

The remainder of the paper is as follows: first, we review digital community memories and their link to new media archi/arti-vism, stressing their role in documenting the social effects of extreme events and climate change. We explore how archives are no longer just static spaces for historical records but are dynamic and functional systems that collect and integrate a variety of media from different sources, both offline and online. Second, we introduce the AquaGranda (AG) digital community memory case study, showing how new media archeology and digital artivism have been used to build it. We conclude by interpreting community memories as triggers for the creation of a collective action on commons, which can help us better understand the shared values, beliefs and experiences that underlie our communities.

1. Digital community memories and new media archi/arti-vism

Digital community memories are community memories based on digitized or natively digital multimedia sources. As Steels highlighted in his review (Steels & Sartoris 2021), they are the natural evolution of the first community memory, the Berkley Community Memory in 1972. Back then, the Computer Age was still at its beginning and the usage of these machines was not widely available. With a strong political ideal of technologies as commons for the community, the Loving Grace Cybernetics group first provided their neighborhood with a tool everyone could use for sharing and helping their physical community. After this remarkable example, new community memories emerged at the be-

ginning of the smartphone era, mainly linked to commons supervision and management (Steels 2007). These community memories still have a strong political and activist role as they are enriched, for instance, by citizens measuring pollution through their smartphones (Maisonneuve *et al.* 2009), or, to an extreme, by indigenous groups trying to preserve their land from exploitation by logging companies (Stevens *et al.* 2014). Digital community memories differ from digital archives because they are directly built up by the community itself, which constitute the corpus of information and social ties, which jointly frame memorials needed by the community to remember its past and look toward the future (Steels & Sartoris 2021).

But when it comes to extreme events and climate change, what constitutes (and qualifies) an archive of its social effects? Nowadays, archives are not just static spaces where historical records or materials are collected and stored but, rather, they are dynamic and functional memorials where a multiplicity of media from different sources, both offline and online, are collected, systematized, integrated and used. This transformation of the archive into an organic entity, which has the scope of providing a shared grounding for memory and for recalling past occurrences, has reshaped the concept of "archive" itself (Clement, Wendy & Jennie 2013). These "new" archives are designed to become reliable sources of historical evidence for guiding informed action of future generations.

The **Svalbard Global Seed Vault,** which opened in 2008. This is a seed bank located on the Norwegian island of Spitsbergen, in the remote Arctic archipelago of Svalbard. The Vault aims to provide a backup solution for the world's agricultural seeds in case of global crises or disasters that could threaten food production. The storage currently contains over 1.5 million seed samples, representing over 4,000 plant species. The Vault was the subject of an artistic project called Seeds Planting Art, which invited artists from around the world to propose artworks dedicated to seeds, symbols of potential energy enclosed in a germ of renewal and rebirth. The project aims to significantly raise awareness of the centrality of plants in our ecosystem. Artist for Plants (2022, first edition) aims to inspire a change in human attitude by learning from plants, which are among the life forms that thrive most on the planet because they cooperate rather than compete.

Figure 1. An example of a contemporary archive; the Svalbard Global Seeds Vault (2008)
Source: based on https://www.artistsforplants.com/

These "new" archives enrich the vast panorama of archives connotated with activist traits. Most of the time, these are directly created or supported by communities who see in archiving practices a form of activist action needed to document the often silenced social groups these archives represent (Flinn and Alexander 2015; Salerno 2023). On the one hand, archives serve as spaces where popular narratives can be fact-checked and grounded on evidence (Roe 2016). On the other hand, archives have become places of experimentation and in-

terdisciplinarity due to the sources they are composed of (Bacon 2007). For instance, Camuffo (2010), to observe changes in sea levels over time, built an archive based on Canaletto's paintings for his research. Another remarkable example is the Svalbard Global Seed Vault (Figure 1), a seed bank and a backup solution for the world's agricultural seeds in case of global crises or disasters. Also, the art installation *Witness* by Emma Critchley (Figure 2) traces the world's history by giving voice in a non-linear way to ice cores from melting glaciers around the world.

"Witness" by Emma Critchley is a art installation based on one of the most innovative archives of our time: Ice Memory. Launched in 2018, this initiative aims to collect, save, and manage ice cores from selected glaciers in danger of degradation or disappearance to preserve the memory of past climate and environment. Glaciers hold valuable data that helps us understand climate and environmental events, but they are endangered archives due to climate change. Scientists from several nations have decided to collect ice cores from endangered glaciers to preserve this heritage and contribute to environmental and climate science. Analysis of ice cores allows us to reconstruct past changes in climate, the environment, and atmospheric composition.

Emma's purpose was to make the memories of those glaciers come alive. She created a double-screen film with underwater dancers, a meditation on the multiple narratives of ice. The work is based on the examination of an ice core as a post-mortem of a glacier, creating an interaction between the human body and the body of ice.

The film's narration tells historical events revealed within the ice cores, which contain air bubbles preserved from the Earth's atmosphere up to 2.7 million years ago. By interweaving these stories with scientific discoveries and stories related to glacier retreat, the work considers the glacier as a witness to the events that have led to its unstoppable decline. Drawing on our collective, non-linear past to explore the interconnectedness of events, the film calls on us as witnesses to the climate emergency that is affecting us in multiple forms.

Figure 2. An example archive-based art installation *Witness* by Emma Critchley (2017)
Source: based on www.radarmagazine.net/danza-nei-ghiacciai-emma-critchlev/

More generally, in the last decades, there has been significant growth in collaboration between archivists, social and environmental scientists, activists and artists for the development of projects related to environment protection and advocacy, climate-change mitigation and for the involvement of communities as co-producers, receivers and continuers of the aforementioned initiatives (Gabrys & Yusoff 2012).

Contemporary artists can commit to an activist attitude, for instance, by denouncing climate change inaction or by activating a targeted population in favour of environmental protection (Roosen, Klöckner & Swim 2018). The work of artivists operates at the intersection of art and activism, where artistic mediums and activism tactics are combined and molded to create a salient, significant and long-lasting impact on society (Raley 2009). As suggested by Duncombe (2016), the success of artivist action resides in the fact that art is an extremely powerful vehicle for social activation as it stimulates emotions, evokes profound sensations and facilitates both introspection and awareness of others, affecting our

perceptions and representations of the world. Similarly, artivism takes shape as an art-mediated and transformative community engagement process aimed at activating society and promoting change.

Figures specialized in art mediation for environmental and climate-related issues, often called climate artivists, are becoming increasingly prominent in the contemporary art scene (Stammen & Meissner 2024). They are committed to promoting a sustainable transition through the use of powerful emotional stimuli, to jointly address environmental, socio-economic and ethical degradation and its effect on vulnerable communities. Contemporary climate artivists, like Ursula Biemann, Paolo Cirio and Jennifer Uchendu, aim to inform the general public by disseminating evidence about climate change, its causes and to make people accountable for the latter (Roelstraete 2023). Their aim is to raise the public's awareness of issues that may directly or indirectly affect them, but also, and more importantly, they want to trigger joint action by the audiences they target (Brunner, Nigro, and Raunig 2013). Some of their actions put them in the role not only of artivists, but also of hacktivists (Fernández Castrillo 2021), i.e. Cirio through his works directly involves audiences offering them the chance to perform real interactive and rebellious actions, like in the project Extinction-Claims.com. In this context, the artist assumes the role of an agent of change, establishing the connections between communities and their ecosystems, disrupting barriers to change, mitigation and adaptation, and urging the public and institutions to take an active stance toward a problem to be tackled.

To achieve the aforementioned scopes, some artists prefer to build direct physical interactions with the communities affected by a problematic phenomenon or targeted by their campaign, while others prefer to strengthen their bond to a community or audience through digital media and online communication platforms (Bernárdez Rodal, Padilla Castillo, and Sosa Sánchez 2019), like social media. To do so, artists wanting to operate through digital mediums, need to acquire non-classical artwork creation approaches and techniques, adapting their means to the media they use (Manovich 2010, 2011, 2015). Therefore, the media that the artist will use is the same one created and used by the community to publicly communicate and express their beliefs, views, and feelings on socio-natural events. The artist appropriates not only the digital toolset and media but also the visual and natural languages used by the groups or communities whose perspectives are represented through her work, to strengthen community-identification and trigger social activation.

In this regard, for this process to succeed, a crucial figure comes into play: the cultural designer. This is the figure who will serve as a facilitator, translator, and social-tie builder between the community, the artists, the researchers or data scientists, and institutions. Cultural designers act as catalysts of the process. Their task is to dig into the local socio-cultural context, identify the groups that were affected by the event, their digital footprint, and delve into the social relationships within its ecosystem. Figure 3 depicts the design and entities taking part in the processes described above, which constitute, as a system, digital community memories.
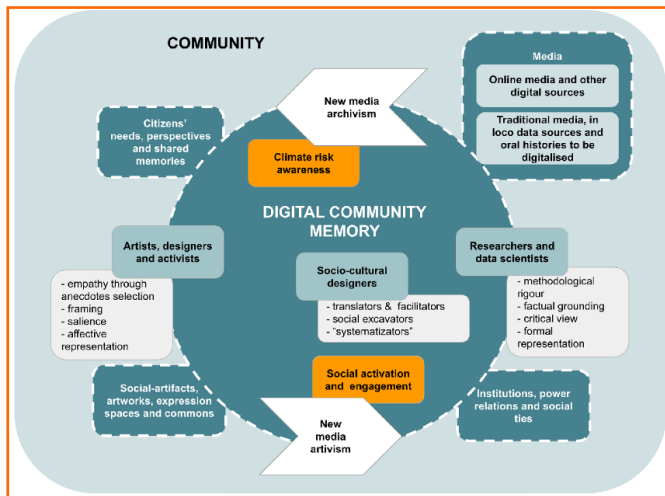
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Figure 3. Digital community memories and new media archi/arti-vism
Source: own creation

2. The AquaGranda digital community memory

In November 2019, Venice was hit by a series of extraordinarily high tides, which flooded more than 90% of the insular city. The AquaGranda (AG) digital community memory (Steels & Sartoris 2021) was born from the need to address this traumatic climate change-related event and preserve its memory, through an inclusive and participatory post-trau-matic elaboration process. During and after these events, these prob-lems were intensively and harshly debated by the community residing in the city (citizens, institutions, scientists, activists, students, artisans, merchants and visitors) through textual, audio and visual media. Therefore, a digital platform was developed to collect these traces and memory fragments, based on the contributions of citizens thanks to the joint effort of the ODYCCEUS EU H2020 project,[1] Ca' Foscari University and DVRI.[2] The AG digital community memory allows to reconstruct the unfolding of the natural event and its social ripples. The reinterpretation of the material constituting it in a digital artivism key by international artists has made it possible to acquire a greater awareness of the phenomenon of high tides and of the collective trauma of these days.

3. New media archaeology

The approach used to retrieve the thousands of images and information from that event is methodologically similar to an archaeological one,

adapted to the media intended to be excavated. Archaeology is based on the excavation of layers of anthropic and natural terrain, identifying the relationships that are created between them. Similarly, the AG pro-ject used an approach for the retrieval of the entire mass of information that like archaeology and its various branches (such as archaeozoology, archaeobotany, human paleontology, etc.) separated the media into types and formats, each to be identified and excavated with appropriate tech-niques. For example, the retrieval of posts, comments, images and videos posted via Instagram, Telegram, YouTube, Twitter, Reddit and Facebook was designed to be performed automatically or semi-automatically, via API querying, web scraping and crawling. A different approach had to be performed to retrieve information from people who had experienced the event or captured digital materials related to it without posting content or sharing publicly their opinions and experiences on the web. For instance, to collect private chats, like on WhatsApp, or direct witnesses, word of mouth, oral history and *in-loco* data, snowball sampling techniques were adopted. Multiple new media archaeologists undertook this process, each specialized in a specific type of community-based data collection. The word-of-mouth aspect was crucial for the representativeness of the AG memory. The Venetian social fabric (given the small number of inhabitants and its population density) is based on a network of contacts kept alive by oral exchanges, informal gatherings and meetings. It was essential to be an integral part of these dynamics to develop a relationship of mutual trust and thus obtain the almost entirety of the memories and perspec-tives of the 2019 event.
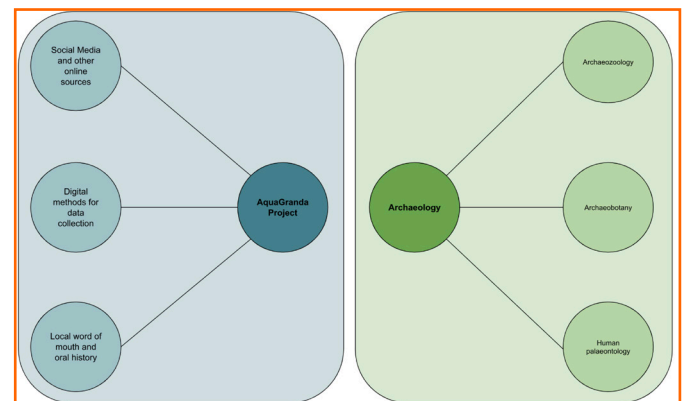

Figure 4. Parallelisms between the AquaGranda project and archeology
Source: own creation

Common thought considers archaeology only as the concrete action of excavation forgetting that archaeological investigation involves nu-merous phases preceding fieldwork (i.e., the study of ancient sources if present, aerial reconnaissance, comparative study with other surround-ing areas, etc.). All these phases are essential to fully understand the

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context of the investigation. Excavation, if the phases preceding it are omitted, is meaningless. In some ways, given the inherently destructive nature of excavation (the removal of soil destroys the "habitat" of archaeological material), loss of information can occur. Similarly, the recovery of multimedia data related to the flooding event had to take into account a number of aspects that were by no means secondary. First of all, a profound knowledge of the Venetian social context allowed us to retrieve most of the private digital traces of the event, dealing with a community partially unaccustomed to the use of digital devices, as already stressed by other heritage scholars working with Venetian communities (Corrò 2021). At the same time, knowledge of the environment, the territory and the high tide phenomenon was essential to undertake a process of collective memory retrieval, as well as the appraisal of social media systems and their functioning.

Social media archeology (Malloy 2016) is an extremely challenging task since it is affected by new digital technology and web-media aspects and its related limits with reference to traditional methods. This ample process has to deal with the dependence and influence of the specific communication channel wherein information is retrieved (Hou, Han & Cai 2020). It is important to underline how social networks can tailor their own services and data-sharing processes very differently, allowing users to constrain the diffusion of their contents and personal data. User-generated content, such as text, images, videos and audio, is strictly bound and conditioned by both the appearance of social streams, walls or other digital metaphors and devices, such as mobile phones, personal computers, etc. At the same time, there exists a relevant connection with the specific social media and the trends of the moment. For example, Facebook users can be very different with respect to Twitter users, e.g., in terms of age, education and geographic-area distribution. Therefore, by exploring in depth and categorizing the profiles of the creators, we can better evaluate the representativeness of their content. We also considered another fundamental limit of the social media services, i.e., the data we can analyse (or download) has already been moderated, e.g., removed posts or comments, banned media, etc.

Within the materials identified during the "stratigraphic excavation" a critical issue emerged: information weekly related to the extreme event of AG in 2019 was also collected and cataloged. In fact, within archaeological stratigraphies, actions and materials that disrupt deeper situations and contexts, such as a foundation pile that affects much older stratigraphies, are nevertheless identified since the task of the archaeologist is still to highlight and record this type of activity. We wondered whether this kind of material (for example, tweets protesting against the MOSE[3] when it was not yet in operation) could influence the narrative of the event: instead, we realized that highlighting anomalies and outliers in the collection process was essential to fully understand the potential of this approach.
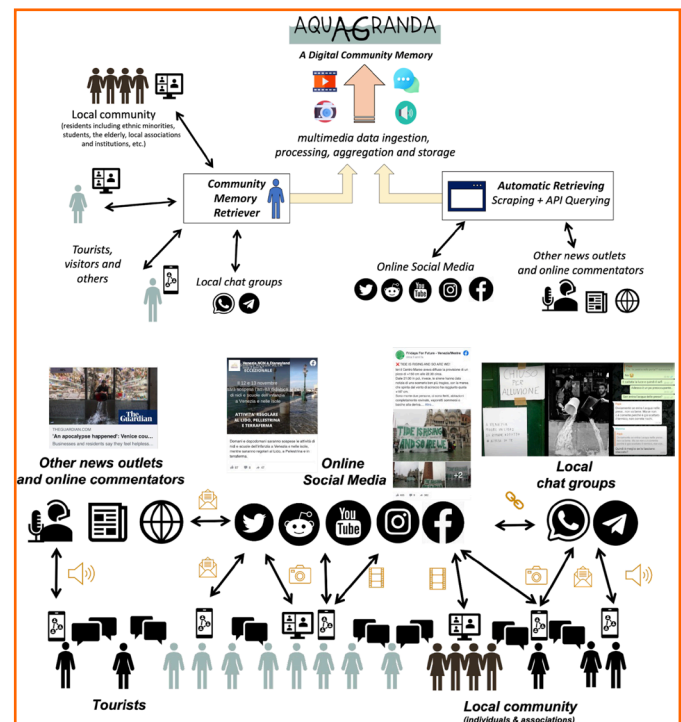

Figure 5. Summary of the AquaGranda memory ecosystem and data collection process
Source: own creation

The collection of media data in relation to a specific event that has affected a community requires a careful choice of the correct keywords to identify pertinent contents. For example, the choice of query strings used in search engines by new media archaeologists affects the results, both in terms of quantity and quality. Selecting ranges of dates and targeted geo-areas of provenance for the materials to be retrieved is a good starting point to perform a first exploratory step but it is yet insufficient to identify and retrieve pertinent contents. Nevertheless, a more focused search approach may consist in searching and matching, for example through RegEx, specific strings of characters in text messages posted on social media or searching for specific tags (e.g., hashtags on Twitter) often employed by users to label and categorize the contents and media files uploaded on the web. Another relevant aspect related to the online data search and mining process is that users tend to reshare online, on different platforms, similar or even identical files and contents, such as sensationalistic images and slogans. This aspect is very common in the digital world and clearly distinguishes community memories from traditional archeology, since contents and multimedia materials shared online tend to be redundant (e.g., reposts, citations, etc.), while in archeology, redundancy among observations is possible but more uncommon and less systematized. Nevertheless, analysing the

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3. MOSE (Italian: *Modulo Sperimentale Elettromeccanico*, lit. 'Experimental Electromechanical Module') is an integrated system of mobile barriers intended to protect the city of Venice, Italy, and the Venetian Lagoon from extreme tides, an extensive review is given by Vianello (2021).

diffusion of specific media contents (e.g, being reposted on multiple social media) and reconstructing how users added or modified these media files and contents, for example by cropping an image from the news, is extremely important because it allows reconstructing latent shared meanings and salient aspects of the collective memories to be retrieved. The AG project takes into account such matters, by storing information in such a way that it is *a posteriori* possible to recognize shared and transformed media contents and identify these relations between original content authors and subsequent reuses and modifications (Appendix 1).

3. New media artivism: connecting the dots from online digital traces to climate artivism and the other way round

One of the distinctive features of the AG project is the strong interdependence, almost a systemic coupling, between the phase of collection and use of the collected fragments, previously disseminated on the web, within local institutions and civil society. This coupling between collection and use of memory prevails both in the process of conceiving artistic outputs, as well as for the realization of scientific studies or initiatives of dissemination, activation and involvement of the ground-zero community. Concerning the latter point, the AG project can be considered a new form of meta-artivism since it is designed to be open-ended, multipartisan and continuously updated. Moreover, it expresses the social and cultural evolution dynamics bringing the citizen awareness of climate change and related events in both directions.

That is, in some cases, the artist, activist or scientist dealing with climate change and related issues approaches AG and its digital memory because they consider its materials useful for the projects they intend to develop. In other cases, probably more interesting from a methodological or cultural point of view, these figures see AG, its community, and its team, as a lever to activate new processes of collective memory retrieval and elaboration, instrumental to the involvement of the community to be activated. This process of re-addressing the memory acquisition process is iterative and allows each of its cycles to include, enhance and understand, from a new perspective, high-tide events, thus, re-actualizing the project and progressively de-marginalizing affected groups and community minorities that would otherwise be invisible, as the effects of the event on them were not observable or foreseeable from the beginning of the project when the channels of memory collection were first defined.

This strong link between memory recall, memory processing and reconstruction, and the search for the "missing pieces" is deliberately at the heart of the project. The AG system mimics the cognitive processes of human memory, such as recall, (re)processing, and instrumentalization, transposing them at a community scale. In particular, many other projects based on archival materials show a clear temporal division between the moment of collection and the moment of data usage, as well as a clear separation between the collector and the user of the data. Instead, the AG project sees these two phases, by design, as linked in a cyclical process within which the one who arrives with a question to be answered also serves as a source of inspiration for the further growth of the community's digital memory itself.
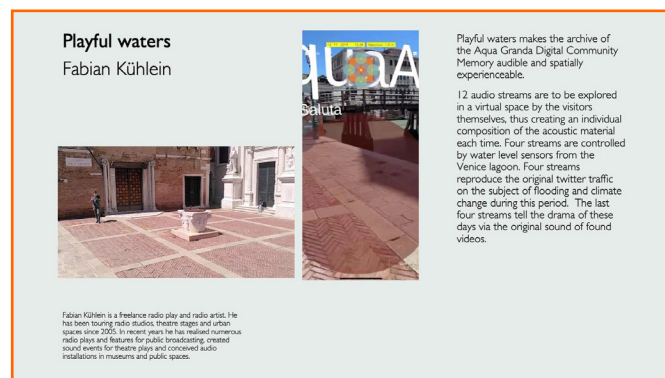

Figure 6a. Example of processing and/or output of AG materials used in art memorials
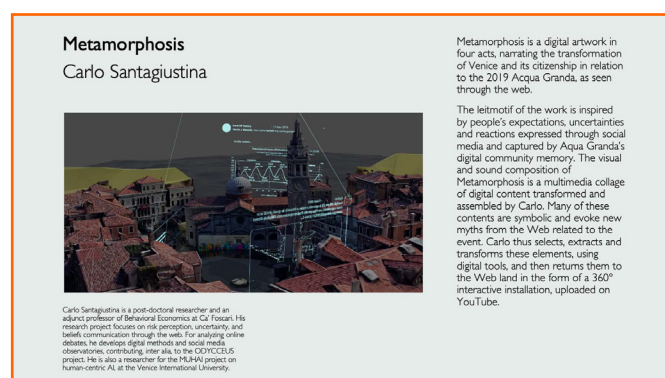Source: *Playful Waters*, by Fabian Kulhein (2021)

Figure 6b. Example of processing and/or output of AG materials used in art memorials
Source: *Metamorphosis*, by Carlo R. M. A. Santagiustina (2021)
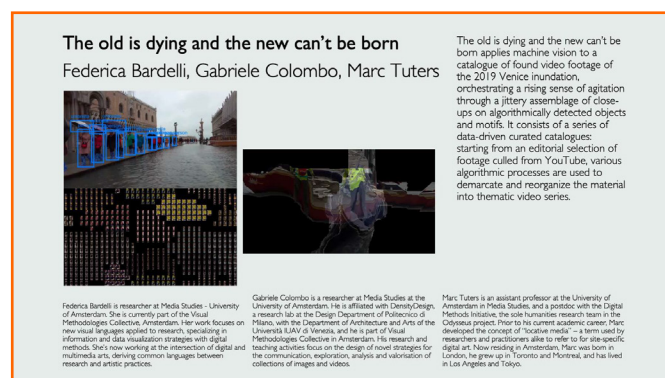

Figure 6c. Example of processing and/or output of AG materials used in art memorials
Source: *The old is dying and the new can't be born*, by Federica Bardelli, Gabriele Colombo & Marc Tuters (2021)

4. Digital community memories for climate risk awareness: some concluding remarks

Like new media archives, digital community memories also contribute to insights into the management of the commons. Commons are characterized by an access and usage problem (Ostrom 1990) and digital community memories can be considered as such.

Through this work, we suggest that contextualizing and interpreting at the community level extreme events and their effects on societies and ecosystems is a form of artivism, aimed at enabling the creation of a common ground for collective reflection and facilitating climate risk awareness, mitigation action and extreme-event preparedness. Given the variety of perspectives, sources, and digital data types, the possibility of creating a unique, coherent and objective interpretation of such a huge amount of data is *per se* illusory and insufficient to trigger collective action. This is because it lacks two key ingredients that are the premises for shared understanding and collective behavior: proximity to impacted communities and people's experiences and feelings related to such events.

A possible answer is given by digital community memories, such as the AG project, which proposes a new methodology through which scientists, socio-cultural designers and artivists can create community memorials. These memorials jointly convey information and feelings, in a way that is community-grounded and embedded into existing social relations, transforming the digital community memory itself into an activism space to inspire change through works based on the collected memories. Differently from other forms of activism, the one proposed here is a non-polarizing activation approach, which consists in studying all narrative streams physically or virtually accessible, without judging the single voices and sources in terms of truthfulness but focusing on the degree to which they are representative of a specific community or group perspective, and of the way of representing a specific extreme event, its causes and effects.

By engaging in this process of collective understanding, we can build deeper connections between community members and identify areas where we can work together to create a more just and equitable society. Furthermore, this process can help us develop a shared vision for the future and build trajectories for more sustainable scenarios that are grounded in shared values and aspirations. Through this collective effort, stronger and more resilient communities to face the challenges of climate change can emerge.

Acknowledgements

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He has a degree in archaeology and deals with museum teaching and public archaeology. He collaborated with museums and foundations, including the MUVE and the Fondazione Querini Stampalia. Passionate about cinema and theater, he was the protagonist of a web series with which he won two national awards (RaiFiction award 2016, Best Italian Web Actor award 2015). Active in various socio-cultural associations, he lives and works in Venice. For AquaGranda, he coordinated the community-based digital materials collection campaign and was the coordinator of the cultural outreach events of the exhibition *Sulle Acque*.

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He is an assistant professor of Research Methods at Ca' Foscari University, where he is responsible for the CISCO X Venywhere project. He has a background in behavioural economics and risk perception and he is specialized in computational methods & AI solutions for management research and Internet-based social phenomena analysis. He develops digital methodologies for the analysis of online debates, narratives and deliberations, contributing, among others, to the Odycceus and I-Seed projects. He also collaborates with the MUHAI project at Venice International University.

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She just completed her PhD in management at Ca' Foscari University. Her research centers on organizing practices read through a post-anthropocentric perspective, with a focus on plants. She holds a BA in management for the arts from Bocconi University and a MA in visual culture and curatorial studies from Brera Academy of Fine Arts. In 2022, with Noemi Biasetton and Matteo Vianello, she curated the project *Matters of Lives. Encounters on the Edge of the Pluriverse*. In 2021, with Luc Steels, she co-edited the book Aqua Granda. A digital community memory.

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She is a content lead and project manager for artistic exhibitions, events, and cultural projects. She has collaborated with international art directors, companies and institutions specializing in managing multimedia exhibitions and immersive events related to contemporary art, graphic design & AI, and citizen-science. She has recently organized a series of events and workshops for the Center for Future Publishing in collaboration with HEAD-Genève. Since 2022, she has been the project manager of AquaGranda for the Distretto Veneziano Ricerca e Innovazione.
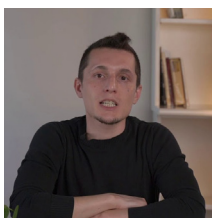
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He is a researcher working in the fields of machine learning, artificial intelligence and computer vision. He started his study career at Ca' Foscari University of Venice, obtaining a Ph.D. in Computer Science. At the same university, he obtained a postdoc working on several applied research projects. His most relevant contributions are related to software solutions for local companies. He has joined the Odycceus European project developing and maintaining the Aqua Granda database. Currently, he is continuing to follow this project while collaborating with Digital Strategy Innovation.

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She is a cultural professional specializing in research valorization, and the use of new technologies and data to create portals and web apps for cultural and scientific content. She has experience in managing events, exhibitions and non-formal education programs. Gabriella has worked with DVRI, CNR and Science Gallery, among others. She has a master degree in Digital Humanities and conducted research fellowships in scientific dissemination. She has also published articles on the connection between art and science, digital curation and cross-media education paths.
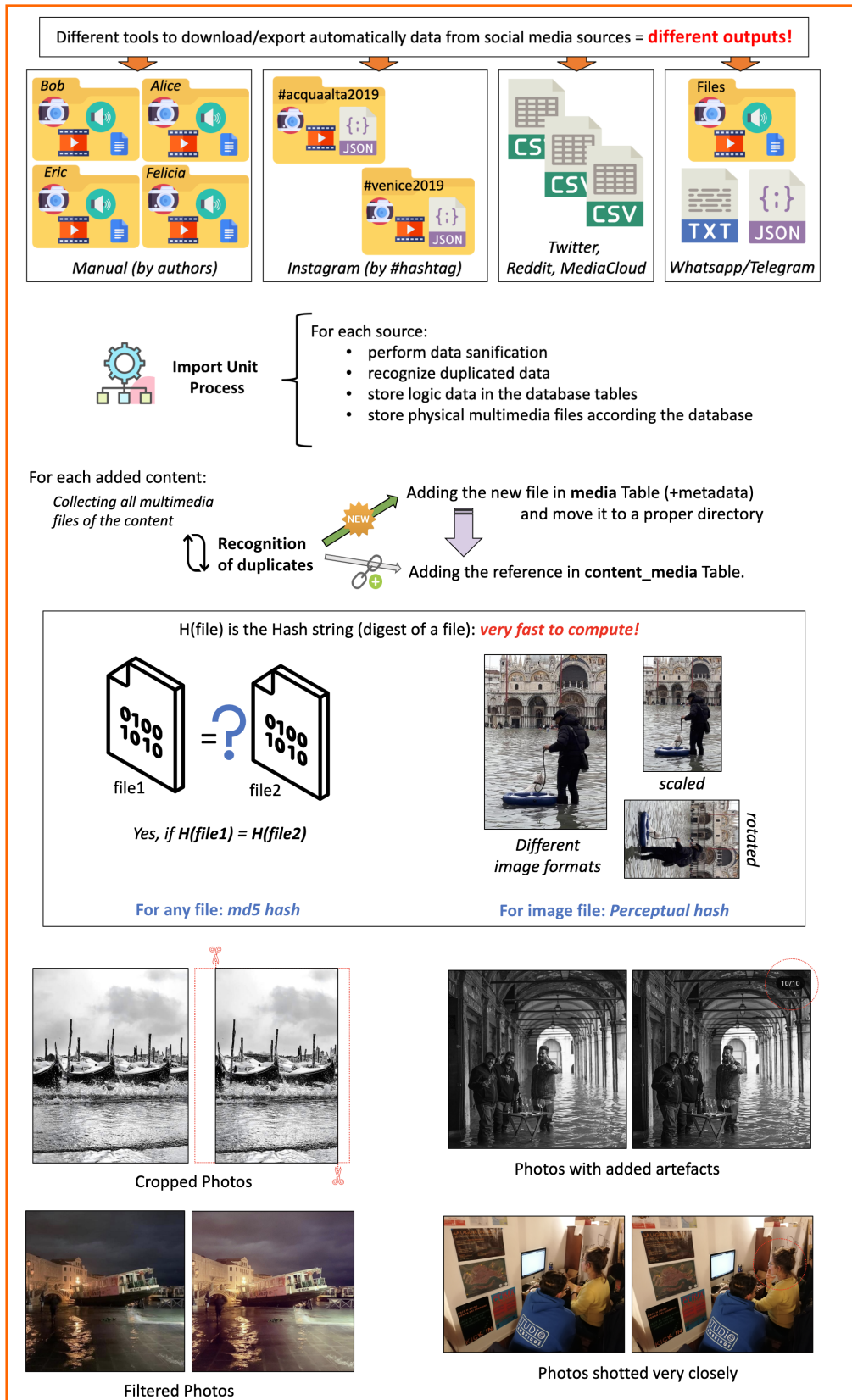
Appendix 1: AquaGranda overall pipeline for importation and memorization of social media content

Source: own creation