Building a Model of Sustainable Digital Ecologies for Archiving and Showcasing Grassroots Memory and Symbolic Reparation Initiatives

Ricardo Velasco Trujillo
Clemson University, South Carolina, USA

Abstract   In this paper I discuss the experience of a practice-research project whose objective was to understand how digital archiving infrastructures could support the work of grassroots memory construction initiatives in post-conflict societies. Through a collaborative model for knowledge and creative content production with four initiatives in Colombia, the project addresses persistent inequalities in access to digital resources that limit the capacities of these initiatives to communicate widely their work and have greater impact within their communities. The paper discusses a model that draws on activist research methodologies for the development and implementation of creative digital practices integrating digital archiving with digital storytelling, centring the values of access, transparency, and knowledge democratization. The digital ecology proposed, I argue, offers new possibilities for the sustainability of grassroots memory and symbolic reparation initiatives developing in contexts of precarity, while serving also as a platform for public humanities research.

Keywords   Digital ecologies. Digital archiving. Memory. Symbolic reparation. Post-conflict societies.

Summary   1 Introduction. – 2 Access and Transparency. Conceptual Foundations and Values of the Model. – 3 Addressing Inequalities in Access to Digital Resources in Modelling Collaborative Digital Archiving Practices. – 4 Designing and Implementing the Model's Digital Infrastructure. – 5 Model's Collaborative Ecology. – 6 Conclusion. Benefits and Contributions of the Model.

1   Introduction

In August 2020, while starting a postdoctoral fellowship with the Mellon Engaged Scholar Initiative at the University of Texas at Austin, I was faced with the frustrating dilemma of facing the travel restrictions imposed by the COVID-19 pandemic, while also having the resources to develop a public facing project in Colombia, proposed for the program. This project was conceived as a channel for knowledge dissemination beyond traditional academic publishing, and as a way of creating a space to centre and make visible the knowledges of the actors and communities that have contributed to the advancement of my scholarship on the role of cultural practices during Colombia's national reconciliation process.

The initial objective was to develop a public event based on the principle of the dialogue of knowledges – between academic and practice-based community knowledges[1] – to share the results of my research with the leading actors of community memorialization initiatives I have documented between 2016 and 2019. These initiatives developed in the context of Colombia's post-conflict transition and national reconciliation process, an ongoing process that started following the implementation of transitional justice in 2005.[2] The Law 975 "of Justice and Peace" which passed that year introduced a series of judicial and non-judicial mechanisms aimed at the demobilization of armed groups and the integral reparation of the victims of Colombia's internal armed conflict.[3] The introduction of transitional justice was a pivotal moment in Colombia's recent history and politics. Among other set of societal transformations, it ignited a memory culture advanced initially by cultural programs and forms of cultural production promoted by official non-judicial bodies such as the National Center for Historical Memory, which had started as a Commission for

[1]   See the premises of the Dialogue of Knowledges at www.dialogodesaberes.com. For a notable example of a project based on these premises in the context of higher education see Krøvel 2020.

[2]   Transitional Justice is broadly defined as the range of processes and mechanisms associated with a society's attempts to come to terms with a legacy of large-scale human rights violations, violence, conflicts, systematic repression or exclusion of particular social groups (because of their political, ethnic or religious affiliations, etc.) in order to serve justice and achieve reconciliation. For more see Teitel 2000; Reiter et al. 2012; Hayner 2001.

[3]   Botero, Restrepo 2005; Orozco 2005; Rettbergh 2005; Orozco 2009.

Historical Memory in 2007,[4] following the mandate of the Law "of Justice and Peace". This approach to foster a memory culture as a foundation for the construction of a post-conflict society was soon taken and appropriated by victims' organizations and communities through their own cultural initiatives developed autonomously across the national territory, as the post-conflict transition and national reconciliation process progressed (Velasco Trujillo 2020).

Employing multi-sited ethnographic and audiovisual documentation methods, between 2016 and 2019, I followed the development of different grassroots cultural and memorialization practices in different areas of the country. As a result of this work, I accumulated a robust body of original documentation that included hundreds of hours of video of participant observations and interviews with leaders and other actors involved in the development of these initiatives, as well as thousands of photographs. The body of documentation also included archival documents, booklets, posters and other visual materials and ephemera.

As empirical foundation of my work, and part of my research archive, this was the material I was using recurringly in my analysis. But the disruption to the initial plan of developing a public-facing event in Colombia led me to assess this original documentation in a new light. I asked: how could this personal research repository be productively transformed into documentary assets that could be consulted by others, avoiding being reduced to data confined in a hard drive? Driven by this question, I started seeing the potential of this personal archive to be converted into a publicly accessible digital repository: an online digital platform where documentary assets could be made accessible to local actors and communities, as well as to other scholars working on issues of memory, symbolic reparation, and the convergence of human rights and cultural activism in post-conflict and post-authoritarian societies. How this artefact was conceptualized and developed is the topic of this paper.

The paper contributes to a growing interest in the role of archiving and memorialization in transitional societies. As Motha and Van Rijswijk argue, memorial and archiving practices are "central to contexts where transitional justice, the redress of historical wrongs, or reparations are at stake" (2016, 2). Based primarily on an empirical perspective, the paper demonstrates how collaborative digital

---

[4]   The Law of Justice and Peace of 2005 mandated (article 50) the formation of the National Commission of Reparation and Reconciliation (Comisión Nacional de Reparación y Reconciliación – CNRR), and within it the Sub-Commision of Historical Memory, also known as the Historical Memory Group (Grupo de Memoria Histórica). In 2011, with the passing of the Law 1448 "of Victims and Land Restitution", the Historical Memory Group was transformed into the National Center for Historical Memory (Centro Nacional de Memoria Histórica), which is in operation to this date.

practices between researchers and community memorialization initiatives can contribute to the construction of what Julia Viebach has termed "transitional archives" (2021). Viebach uses this term to refer to a plurality of records and bodies of documentation that form, consolidate, and which use gain significant importance in societies undergoing transitional justice processes. These range from "those collected by international and civil society organizations documenting harm and abuses of power by state and non-state actors" (404), to a broad spectrum of documentation practices, which, like those proposed in this article, contribute to truth, justice, and reparation, the core principles of transitional justice.

It is relevant to stress that the practices described in this article have developed autonomously and organically, and respond to a set of objectives and priorities that differ significantly from official institutional approaches to archiving and memorialization. Thus, the article offers a vantage point to the type of documentation, records, and practices that organizations and social actors from the grassroots level deemed worthy of preserving, protecting and giving access to, as part of their memory construction and symbolic reparation efforts. Crucially, the article also invites us to imagine the modalities or ecosystems of collaboration that can facilitate this process, including the active role of community-engaged researchers and their own documentation and digital practices. In this regard, the model discussed aligns with what has been termed 'ecosystem thinking' (Bloom, Dees 2008; Baldassari, Diani 2007), a perspective that allows to bring out often overlooked but indispensable complementarities in systems of support and collaboration, to offer "new approaches and strategies to catalyse social innovation" (Rangelov, Theros 2023, 798).

Thinking along these lines about how to transform my research documentation into a public resource, access and transparency emerged as foundational values of the digital environment envisioned. Yet the question of a relationship mediated by technology between the researcher and the grassroots initiatives documented emerged as a problematic horizon of possibility within a broader context of the unequal distribution and access to digital resources. This was the original tension out of which the model for a collaborative digital platform that I describe in this article developed. Initially conceived as an open digital repository for a book project's research archive, it evolved into a collaborative documentary ecology integrating digital archiving with creative digital storytelling. The digital ecology that developed aimed at balancing with equity the needs I face as principal researcher with the archiving and communication needs of participant initiatives. I argue that this model offers new possibilities for the sustainability of grassroots memory and symbolic reparation initiatives developing in contexts of precarity, while serving also as a Digital Humanities platform designed to bring

these knowledges to a broad audience and foster further research on grassroots memorialization in transitional societies.

In the (following) second section, I describe the evolution in the conceptualization of the model and the values that guided it in its early stage. The third section discusses the central questions that oriented its development, in relation to the problem of an unequal distribution and access to digital resources, which limits the capacities of grassroots organizations to systematize and digitize their work, therefore affecting their intended impact. Section four describes the model's basic digital infrastructure, and section five discusses the initiatives involved in the initial stage of the project, their common needs, and the implementation of its collaborative ecology. The final section summarizes the benefits reported by the leading actors of the initiatives, as well as the challenges of continuing the development of the model beyond the initial stage discussed, strengthening the resilience of its digital ecology and its focus on accessible, transparent, and inclusive archiving and knowledge dissemination practices.

2 Access and Transparency. Conceptual Foundations and Values of the Model

By 2021, the results of my ethnographic work in Colombia had resulted in a robust body of audiovisual documentation comprising terabytes of interviews, ethnographic videos, photographs, and other visual materials and documents. Most of the grassroots memorialization initiatives I have documented up to that point kept evolving in a context of precarity and lack of institutional support, despite their contributions to mending the social fabric, advancing a culture of peace, and contributing to the dignification and symbolic reparation of victims of human rights violations committed in the context of Colombia's protracted internal armed conflict. These were the fundamental tenets of the transitional conjuncture, as the recovery of the memory of the victims became a state responsibility, typified as a mechanism of symbolic reparation within the transitional justice framework (Ministerio de Justicia y del Derecho 2011; Velasco Trujillo 2020). In this context, the question of how to make my documentation publicly accessible gained additional relevance. As Viebach has argued, in transitional justice contexts archives have "a broad societal, political and historical significance as a collection of relevant records", and because of this significance, they are worthy of preserving and protecting (2021, 405). But not only was documentation of the initiatives I have studied in need of being preserved because of their value in the context of the post-conflict transition. The initiatives themselves, and the actors and communities that have shared their knowledges and experiences, could also benefit from a digital space where their

work and contributions to Colombia's reconciliation process could become visible. Many of these initiatives were action and place-based practices whose interventions were more ephemeral than material cultural forms and products. In many instances, the only records that existed of their work were the multiple files of my ethnographic documentation – saved on encrypted hard drives.

Beyond the relevance of archiving and giving visibility to these initiatives because of their relation to the transitional context, a broader perspective regarding access to these knowledges also informed the process of converting a personal research archive into a public digital resource. In her influential article "Reflections on the Photographic Archive in the Humanities", Margrit Prussan asks: "What happens to research related photographs after their intended purpose has been served?" (2018, 135). Prussan affirms that if the images were part of data associated to an academic project since their conception, and if they have played an important role in the production of theory or in the visualization of scholarship results, "there is a need to preserve them and make them accessible, at least within academia" (139). Prussan's question raises points of central concern within the humanities to be considered in relation to access and preservation of research data in the form of visual materials. Her concern centres narrowly on scholarly dynamics, including theorizations and visualization derived from visual materials that have been conceived, like in my case, as fundamental to the research, documentation, and analytical processes.

My point of departure for thinking about access and preservation coincided with Prussan's, in as much as I understood the value of ethnographic audiovisual data in the conceptualization and theorization of cultural manifestations in post-conflict societies, and of the preservation of this type of documentation when conceived as a "transitional archive", as previously discussed. It was this body of documentation that provided the empirical foundation for the concept of "Cultural Ecologies", which I propose as an analytical tool to reveal the interconnectedness and complexity of the assemblage of cultural practices and initiatives that emerged following the implementation of transitional justice in Colombia. Drawing on "ecosystem thinking", broadly defined as a "paradigm of social innovation that builds on metaphors and insights from ecology" (Ragelov, Theros 2023, 798), the concept of "cultural ecologies" developed into a theoretical tool that illuminates the conditions in which these practices have developed, as well as the complex factors that foster or interrupt their development and sustainability (Velasco Trujillo 2020). However, despite the centrality of this documentation in my theorization, my orientation for preserving and making documentation accessible was founded more on a principle of reciprocity, a preoccupation for 'giving back' to those who have contributed to my research, and for creating conditions for collaboration mediated by technology.

Moreover, in the early conceptualization of a digital repository, visualization was not only conceived as the means to translate the research and analytical process to the academic community, one of the central rationales Prussan proposes. I approached visualization as directly tied to the values of access and transparency, a strategy for the digital repository to become productive beyond individual scholarly contributions, interpretations, and theorization. In this regard, visualization emerged as part of the creative component envisioned in the model, tied particularly to the concept of digital storytelling, a technique for making content not only accessible but interactive and engaging for academic and non-academic audiences alike, a point to which I will later return.

Making the "raw" documentation comprised of interviews, ethnographic observations, and other visual materials accessible for consultation constitutes the main means through which this digital repository model can become a resource to foster further research, and an additional channel through which personal interpretations and their empirical foundations can be open to debate and scrutiny. To open a researcher's personal archive so that others – including research subjects and collaborators – can consult it, create new knowledge, and examine in more depth the empirical grounds of the hermeneutic process, as well as the richness of the raw documentary materials, constitutes an important point of departure to guide more transparent, decolonial, and democratizing knowledge production practices. Furthermore, this process provides a particular vantage point to assess the relationship between researcher and social actors during fieldwork as well as the conditions under which documentation is gathered and knowledge is being produced. From this perspective, preserving and making documentation accessible constitutes a foundational opportunity to promote transparency and inclusive research and knowledge dissemination practices. This is central to the model I propose and to the professional ethics I promote and defend through the digital practices the model foregrounds.

It is important to stress that the need for preservation and for making documentation accessible was not only a need to be confined "at least within academia", as Prussan conceives it. The digital archiving model was initially conceived to centre and make visible the knowledges of the actors and communities whose practices I have documented. But also, and crucially, the main motivation was to share those documentary assets and make them accessible to these actors and communities, a practice that is marginal within academia despite the increasing salience of decolonial discourse and a heightened sensibility against extractive research practices. As Gaudry has argued, "research and publishing expectations drive researchers to take meaningful information, often from a marginal or 'under-researched' community" with the purpose to present it exclusively

either to academic audiences or to governmental bodies, for whom preserving the integrity of that extracted knowledge is not of central concern (2011, 113). With the goal of advancing disciplinary knowledge or informing policy decision-making, the author implies, "rarely are the people who participate in the research process as participants or 'informants' considered to be the primary audience when it comes time to disseminate the research" (113).

The digital ecology proposed aims at tackling extractive dynamics and foster instead inclusive knowledge production and dissemination practices. In this process, making documentation accessible to participant initiatives is of primary relevance not only because of the difficulties in access to scholarly publications for actors outside academic institutions, but also because of the transnational context of research in which this project has been framed since its conception, and particularly the global north-global south relationships involved. It was this initial acknowledgment of knowledge-power dynamics that led to the development of a collaborative model for knowledge and creative content production; a move from a top down researcher-centred approach to digital archiving to a sustainable ecology of horizontal collaborative practices for archiving and showcasing the work of grassroots initiatives and their crucial contributions to the post-conflict transition.

3   Addressing Inequalities in Access to Digital Resources in Modelling Collaborative Digital Archiving Practices

The shift to the conceptualization and development of a model of collaborative digital practices necessarily involved asking how digital archiving practices and infrastructures could benefit the grassroots memory activism initiatives involved in the project. With an emphasis on praxis, the development and implementation of the model was guided (and continues to be guided) by these central interrelated questions: *What digital infrastructures, ecologies of practices, and collaborative entanglements can facilitate the work of grassroots cultural initiatives focused on autonomous memorialization and symbolic reparation strategies? How can these systems be developed in sustainable ways that are adaptable to the needs of their communities?*

Despite the importance of memory construction and symbolic reparation initiatives in post-conflict and post-authoritarian societies, little is known about the role of autonomous digital archival practices for the development and sustainability of such initiatives. A discussion of the state of knowledge in this area is beyond the focus and scope of this article. Relevant to this discussion is the fact of the lack of praxis-based and decolonial approaches to understand these issues, that is, projects that seek to explore or implement solutions through

collaboration and the development of digital infrastructures designed to both document and help advance the work of participant initiatives. The model proposed attempts to address this issue building on a trajectory of research and on the low-cost digital archiving infrastructure developed during the early conceptualization stage, which resulted on the web platform Cultural Ecologies of Memory (CEM).[5]

The development of the model was facilitated by relationships of trust built with four grassroots initiatives, who were invited to participate. These four initiatives, which I describe in section 5, form the collaborative ecosystem of the initial or pilot stage of the model. As mentioned before, the idea for the model was shaped during research and documentation conducted between 2016 and 2019. I developed the concept of 'cultural ecologies' as an analytical tool to reveal the conditions for the emergence of a wide range of cultural initiatives that have proliferated during Colombia's post-conflict transition, as well as the complex factors that foster or interrupt their development and sustainability. Among the factors I identified as potential barriers for the broad impact and the long-term sustainability of the memorialization practices of grassroots organizations is the problem of access to digital tools and infrastructures, a context of precarity, and the inability to cope with technological changes. For instance, in cases I documented between 2016-17, initiatives that had built their online presence to disseminate and showcase their work did not have a sustainability plan for their websites, which quickly felt into obsolescence, and could no longer be accessed by 2019 (the year I started systematizing this data). Loosing online presence did not only affect the communication and outreach strategies of these initiatives but had an overall effect on their ability to seek funding and partnerships, among other issues, which affected their work and the impact they intended to have in their communities. None of the initiatives studied did systematically employ digital archiving or file management systems.

Because of the unequal distribution and access to digital tools and technologies, grassroots organizations among vulnerable communities are at a significant disadvantage when it comes to systematically document and showcase their work and contributions to national reconciliation after periods of violence or repression. This problem is aggravated by the fact that their initiatives develop in precarious conditions, lacking substantial funding, and in many cases the necessary equipment to conduct and sustain their work effectively (personal

---

5 The digital infrastructure for the platform was developed by Luis Gómez, a developer affiliated with the Australian Academy of Sciences. First serving as consultant in the early conceptualization stage, Gomez has played a central role in the development of the model. The platform is currently the core part of the model's digital ecology: website link `https://culturalecologies.com/`.

ethnographic observations 2016-23). Consequently, they mostly rely on the contingent support or expertise offered by state commissions, higher education institutions, museums, or documentation centres.

The model being discussed emerged as a small-scale intervention and laboratory aimed at tackling these structures of dependency and subordination by advancing the autonomy of participant grassroots initiatives for integrating the use of digital tools into their workflows in sustainable ways. An initial premise was that this model would not only serve their immediate documentation and archiving needs but also foster opportunities for collaboration, dissemination, and for broadening the scope of their actions and interventions as producers and custodians of knowledges that are of central importance for the promotion of a memory culture necessary for the sustainability of any reconciliation process. In this sense, the model proposed aims at strengthening or contributing to the formation of civic networks across the communities involved. Civic networks are defined as a "web of collaborative ties" between organizations "acting on behalf of collective and public interest" (Baldassari, Diana 2007, 736), without recourse of state institutions. In the context of Colombia's post-conflict transition, the common interest across the initiatives and organizations involved is the goal and conviction of contributing to memory construction, symbolic reparation, and peace building from the grassroots level.

4 Designing and Implementing the Model's Digital Infrastructure

The low-cost digital infrastructure developed during the early conceptualization stage, the platform CEM above mentioned, was crucial in thinking about the autonomy of the model's digital ecology and its long-term sustainability. The foundational components were grounded on an architecture designed to operate in low-budget situations, relying on grant funding, and independent of institutional support. The context of the project being designed at the postdoctoral career stage, a fix-termed transitional position that offers no guarantees of institutional affiliation beyond the end of the term, as well as the project's transnational nature were important determinants in developing this approach. This context also allowed for more horizontal relationships with the grassroots initiatives who might have hesitated to participate and contribute documentary assets and data from their archives, totally or partially, for a project directly connected with an institution outside their country and dependent on policies and other dynamics beyond their control. Thus, independence and reliance on contingent funding played an important role, in addition to the fact that the project had an already existing an adaptable

digital infrastructure. This infrastructure was then further developed with a focus on supporting the communications and archiving needs of participant initiatives, structured conceptually around two main strategies: digital archiving, and digital storytelling.

Digital archiving involves selecting and curating documentary materials from the initiatives involved, according to their own priorities, as well as those related to the project's collaborative process. The latter included interviews with participants and other ethnographic documentation. These materials are structured as digital objects and described using metadata elements that expand the Dublin Core Metadata Scheme, a standard model of fifteen core properties for use in resource description.[6] In response to the project's collaborative ethos and inclusive values, we employ an expanded version of this scheme by introducing what I describe as 'additional annotation entries', designed to include input or clarification from participants or their collaborators. For instance, in addition to 'Description', the main category used to describe an object in the Dublin Core scheme, the expanded scheme includes the entry 'Annotated Description', to make possible any input that can add additional relevant information to the objective description entry. This can be relevant for the description of cultural artifacts whose authors might want or request to make annotations after its publication. Annotations entries are also added to the 'rights' category, and to additional fields employed that include restrictions for use and distribution, which are of central relevance when working across collaborative networks. The introduction of annotations entries illustrates how the digital practices integrated into the model advance the values of access, inclusion, and transparency starting at the process of description, one of the building blocks of digital archiving. Finally, all documentary assets are published as digital objects, and made accessible through CEM's archive section, except for restricted content, as determined by participants.

The digital storytelling strategy involves the creative process of using the digital space to showcase each of the initiatives, exploiting its interactive possibilities by combining descriptive and interpretive text with sensorial ethnographic audiovisual elements. This process allows for narrative and analytical text to interplay with (and be enhanced by) rich visual sensorial information, making content both accessible and engaging to a broad audience in ways traditional printed and academic formats cannot. The approach to digital storytelling is grounded on rigorous compositional techniques that define

---

6 The core description elements of the Dublin Core scheme are: Title, Subject, Description, Author, Publisher, Contributor, Date, Type, Format, Identifier, Source, Language, Relation, Coverage, Rights, Identifier, Source. For a thorough introduction to metadata schemes for digital collections, see Miller 2011.

the different elements and the forms in which they can be combined.[7] These elements, or building compositional blocks, are comprised of different formats of text, photography, collection of images, video, and sound. The ways in which they can be combined or arranged is defined in templates for publishing structured in the content management system employed, to which I refer below. This approach proposes a contribution to public and Digital Humanities praxis that integrates elements of compositional techniques, visual and sensory ethnography (Pink 2015; 2020) to enhance and enrich traditional humanities hermeneutics in the digital space. At the same time, one of the main functions of the use of digital storytelling is to serve the communication needs of participant initiatives using the techniques developed. In this process, a core strategy of the model is to give leaders of each initiative the necessary training to present their work through their own perspectives and voices. This collaborative approach to content creation can facilitate making the platform and its content accessible to other human rights and cultural activists, grassroots leaders, organizations, and communities. This is further reinforced by including interviews with participants, participant observant videos, and other documentation that can enrich the perspective given on each of the initiatives, as well as the model's collaborative ecology.

Conceptualized around these two strategies, CEM is built as a repository that allows to save and structure research data employing an open-source headless content management system (CMS), that is, a content management system that is completely independent of any predetermined front-end template or 'head'. This system was optimized for storing and structuring data from ethnographic and archival materials, including audiovisual documentary assets. The model is designed for all data stored to be accessed through a RESTful web API in a React application via Json objects. RESTful, which stands for 'Representational State Transfer', is an architectural style for an application program interface (API) that uses HTTP requests to access and use data.[8] The architecture therefore separates data systematization and storage, the process of converting curated documentary assets into digital objects, from the front-end design and templating processes, or the presentation layers. All systematized data and documentation, including individual digital objects published for consultation as well as more complex forms of organization and articulation of text with audiovisual or archival elements used in the creation of digital narratives, are structured and stored independently

---

7 I developed these compositional techniques building on my training and experience in music and audiovisual composition.

8 For further reference, and a thorough discussion of RESTful API design and best practices, see Subramanian, Pethuru 2019.

and can be accessed or retrieved for different purposes (a digital exhibition, installation, etc.), and through different platforms (a website, a mobile app, etc.).

The headless CMS-based architecture is crucial for the longevity, sustainability, and resilience of the model. For instance, any digital object's structure, or digital storytelling compositional arrangements, can be modified or updated according to evolving functional requirements, communication uses, or changes in custodial model. Furthermore, a headless CMS is not conditioned by and does not condition the front-end as a traditional CMS does,[9] and therefore offers a multi-platform approach to the use and presentation of content. This functionality is also crucial because it provides multiple possibilities for future development, including independently developed frameworks or applications by any of the participants or third parties collaborating with them. Thus, the model's architecture and back-end infrastructure were conceptualized and designed to offer great flexibility and versatility for adapting to a rapidly changing technological landscape.

The use of a headless CMS allows the various collaborators and initiatives involved to structure, store, edit, and publish content in a non-centralized manner. It also allows them to manage their assets independently. However, publication and access privileges can be assigned according to the project's needs, editorial workflows, or other operational requirements, including data security and management plans. Because the grassroots initiatives that participate have different and independent trajectories, the model's architecture has been designed to provide social actors leading them with the possibility of using their data and assets for other purposes and independent projects, which is central to the long-term sustainability of their initiatives. Employing a free of cost, open-source headless CMS plays a key role in this regard because it guarantees the longevity of all data stored, and autonomy in its intended uses, independent of any user interfaces or front-end frameworks devised or employed at present or in the future. This is integral to the model's operational structure and a fundamental block of its digital ecology.

In addition to its back-end design and infrastructure, at present the model relies on the platform CEM as its front-end web interface to give access to curated documentary assets of each initiative, and to visibilize each of them independently through digital storytelling. Composed as audiovisual essays that discuss and explore each of the initiatives, their objectives, actors involved, and other

---

[9] As is the case with web publishing platforms such as WordPress or Omeka, for example. These platforms condition the data used to pre-determined templates that significantly restrict how data is presented or published in the front end, which results in a broad range of limitations that the model discussed in this article tackles in its design and infrastructure.

characteristics, these are structured to form micro-sites within the platform. These microsites are organized as 'cases' of the cultural ecologies of memory, that is, cultural manifestations that, by being entangled in the complex network of memorialization and symbolic reparation practices within the post-conflict transition, exemplify the central concept at the root of the project.

In sum, the digital infrastructure of the model discussed was designed to serve the archiving and communications needs of grassroots memorialization initiatives. The architecture employed to store and structure data provides participant initiatives with a versatile and sustainable solution for their archiving needs, and for managing their documentary assets. At the same time, the digital ecology developed allows these initiatives to exploit the richness of ethnographic documentation and its articulation with interpretative and narrative text for content creation, structured around digital essays. It is important to note that the implementation of this model required training participants in the use of a headless CMS for the systematization and management of their documentary assets and for collaborative content creation. This transfer of digital tools was one of the central goals of the project and an important contribution to the advancement of the initiatives, as I discuss in the closing section.

Crucially, while the model currently relies on the web platform CEM as an interface for consultation and dissemination, the digital ecology discussed provides participants with foundations for developing other communication options, as well as future uses of data and content. This openness of the model was central to its design. While its current interface, the platform CEM, serves as a resource to study concrete examples of cultural and memorialization practices and their role in post-conflict societies, the model is focused on creating conditions for equitable, sustainable, and collaborative digital practices, that include the sharing and transfer of digital infrastructures with the initiatives involved to help their needs and support their mission.

5   Model's Collaborative Ecology

The collaboration model was guided by an activist research approach aimed at addressing the inequalities in access to digital resources that limit the capacities of participant initiatives to communicate widely their work and have greater impact within their communities. Charles Hale (2006) uses the term 'activist research' to refer to a method through which the researcher (1) affirms an ethical or political alignment with the struggles of the communities being studied, and (2) establishes a dialogue with these communities that informs and actively shapes each of the stages of research. Following these premises, activist research was employed in combination with

multi-sited ethnography. Furthermore, this methodology was oriented by the "ecosystem thinking" approach discussed in the introduction. As a mode of coordinating collective action, this approach strengthens the capacity of the initiatives to contribute to their communities by creating conditions that foster complementarity, cross-pollination of ideas, resources, commitments, and other commonalities. The ecosystem logic, as Rangelov and Theros argue, builds on diversity and interdependence (2023, 799). Employing activist research through an ecosystem lens, required working on finding a common vision for the use of the digital space through our shared commitment to contributing to inclusive memory construction and autonomous symbolic reparation from the grassroots level. Our ethical and political alignments converged in the goal of foregrounding the autonomous contributions to the post-conflict transition made by grassroots organizations working with complete independence from transitional institutions and governmental entities.

Participant initiatives, described below, were chosen because they were lacking digital tools for documenting, archiving, and disseminating their work, securing or restricting access to sensitive data. Developed in a context of precarity and lack of institutional support, the initiatives that formed the project's collaborative ecosystem make visible injustices and forms of exclusion against historically marginalized communities who suffered different forms of violence and stigmatization as a result of violence and forced displacement, of their gender or political orientations, race or ethnic identities. These communities and initiatives also remain underrepresented in current institutional memorialization, reparation, and reconciliation programs. Through the implementation of a collaborative ecosystem, the model and its practices reinforce the potential of each of the initiatives to generate impact within their communities, and foster opportunities for disseminating their work and make visible their collective commitments to peace, reconciliation, and social and historical justice.

'Memorias desde el Tugurio' (Memories from the Slums), led by human right defender and archivist Eberhar Cano, is an initiative working on digitizing and providing access to a repository of documentary photography and other archival materials related to the human rights and social justice activism of grassroots social movements in the slums of Medellín, particularly in the Moravia area, a former municipal dump. Since the mid-1950s and through the 1970s, slums were formed as a consequence of rural exodus, populated by families forcibly displaced by violence and the armed conflict, a process that intensified during the 1980s (Alcaldía de Medellín 2006; Martínez Zapata 2014; Vilar, Cartes 2016). They built informal settlements in the most precarious conditions, facing state abandonment, and a process of social rupture and stigmatization that further undermined their dignity.

Figure 1a-b   Grassroots organizing by communities of Medellín's slums

In 2018 Cano was entrusted by Vicente Mejia **[fig. 1a]**, a leader in the "Golconda" group (a faction of the liberation theology movement in Colombia), with the custody of photographic records and other documentation of more than a decade of their work with slum communities **[fig. 1b]**. These visual records constitute what Cano calls, the "subaltern memories of the city's recent past" (Personal communication, August 2023), which underscores the importance of the digital preservation, and dissemination of this documentary archive. Thus, the initiative aims primarily at repairing the dignity of Medellín's slum communities by visibilizing their struggles, organizational strategies, and resilience.

A second initiative, 'Unión de Costureros' (Sewing Box Union), has been developed by a collective of women belonging to internally displaced populations and led by Afro-descendant human rights leader Virgelina Chará. The collective uses fabrics as a medium to make visible their claims for justice and reparation in public space. Their main strategy is to intervene monuments of historical and political significance, a strategy that has brought the collective significant visibility. The initiative has evolved into a micro-scale social movement for reparation and historical redress connecting forcibly displaced and refugee populations, as well as grassroots human rights organizations across borders. For this project, we worked on curating the documentation of ethnographic work and community engaged research I conducted between August 2018 and May 2023, focusing particularly on three interventions in major monuments in Colombia's capital, Bogotá.

As action based symbolic interventions in public space, such strategies are ephemeral and are only referenced on local news covering the events, or in social media posts by participants, institutions involved, and audiences. As part of their memorialization and symbolic reparation practices, the collective process involved in the elaboration of the fabrics have become important spaces for rebuilding the social fabric among those who have experienced the rupture brought about by forced displacement, forced disappearances, and other human rights violations. At the same time, the acts of the coverings serve as practices of civic engagement where different sectors of the citizenry can participate and learn more closely about the claims for justice and peace that define the vision of the initiative (Velasco Trujillo 2020). As such, the socio-cultural practices of Unión de Costureros constitute important repertoires of symbolic reparation and reconciliation, whose documentation needs to be preserved and made publicly accessible **[figs 2a-b]**.

Figure 2a-b   Symbolic coverings of monuments by the sewing group Unión de Costureros

'Women who Weave History in Latin American and the Caribbean' is an initiative led by human and women's rights activist Angélica Rodríguez. This memory creation project from a feminist perspective grew out of Angelica's work with *Fundación Al Derecho*, a human rights NGO she co-founded. The main aim of the project is to make visible the work of women leaders across the Americas in different fields and belonging to a diverse range of social, ethnic, and cultural backgrounds, highlighting their contributions, and bringing attention to the fact that women's perspectives have been historically marginalized across the different sectors the interviewees represent. Rodríguez started the initiative by interviewing women leaders and then publishing these interviews on YouTube. This platform, however, does not allow for the systematization of the interviews, and for rigorously describing each individual digital object with professional metadata standards. With the objective to reach one thousand interviews, the model and digital ecology described has offered the tools the initiative needs to realize its long-term vision, and to guarantee the longevity of the project with its potential as a public research resource. Nevertheless, YouTube continues to provide free of cost video hosting capabilities, an important aspect of the longevity and sustainability plan, and these videos are then embedded in the platform CEM. In this way, the project can continue to grow organically following the original conception and channel of communication but articulated to a more versatile digital ecology with rigorous digital archiving protocols and greater capabilities. Building on this new digital infrastructure, the initiative brings stories of leadership, agency and societal impact by women to a broad audience, serving as a platform for recognition of their work, and as a resource for other women working in human rights, social and environmental justice activism throughout Latin America.

The fourth initiative is the 'Archive of Artists with Dissident Gender Identities' led by Leandra Plaza, artist, curator, and feminist activist. Her contribution aimed at consolidating a digital archive of the work and trajectories of LGBTQ artists and other creative actors with dissident gender identities in marginal areas of the city of Cali, who have been persecuted, stigmatized, or marginalized in the creative sector because of their sexual or political orientation, or because they use the visual arts to denounce persistent inequalities, violence, and human rights violations committed against these groups. This work constitutes an exploration of the way in which cultural and memory activism intersects with resilient ways of inhabiting the city and participating in its cultural and public life. Leandra defines her articulation of her work into the model as a process of "digital curatorial activism" centring dissident artistic practices as nodes of creativity, utopian visions, and mutual care. Leandra's long-term vision for her use of the platform CEM is to serve as an inclusive digital

space that communicates the vision of these artists, promotes tolerance and respect for diversity, as contributes to the symbolic reparation of these communities, while at the same time making visible their vulnerability and the context of precarity in which they work (personal interview, September 2023).

In addition to the grassroots memorialization initiatives involved, the collaborative ecology was designed to include partner organizations with the potential to serve as co-custodians of data. The *Archivo Oral de la Memoria de las Víctimas* AMOVI (Oral Archive of the Memory of the Victims) at Universidad Industrial de Santander (UIS) in Bucaramanga, Colombia, offered consultation and guidance for best practices for managing sensitive data and for working collaboratively in creating special collections with victims of human rights violations and other vulnerable actors. As partner organization, AMOVI can serve as co-custodian of selected data or collections if needed or requested by any of the initiatives participating in the project. Having this institution as regional partner in Colombia and as a potential part of the digital archiving ecosystem offers an additional structure for strengthening transparency, access, data longevity and security. This external support can therefore reinforce the resilience of the model. The collaborative ecology was also designed to offer professional development and training opportunities for graduate students involved as research assistants. In its initial stage, Alexandra Chocontá Piraviqué, a doctoral student in Gender, Women, and Sexuality Studies at the University of Minnesota, contributed to an analysis and systematization of interviews used in the initiative "Women who Weave History", described above.

The dynamics and ecology of practices that developed and resulted from the collaboration and cross-pollination of ideas and resources among these social actors and initiatives have fostered conditions that reinforce the sustainability of the initiatives within the broader ecology of cultural practices that continues to develop during Colombia's transitional conjuncture. As I have demonstrated, this model of sustainable digital ecologies focuses on serving as a resource and archive where curated documentary assets of each of the initiatives are made accessible, and was built around the principle of the collaborative construction of knowledge and creative content to make visible the contributions of the initiatives to memory construction and reconciliation.

6   Conclusion. Benefits and Contributions of the Model

The benefits to date of this model, as reported by participants, can be grouped into these categories: technical and digital literacy advancement, and methodological and organizational advancement. All participants consistently reported direct and indirect benefits of learning new digital tools and interacting with the model's digital ecology. The direct benefits include gaining greater control of their documentary assets during the systematization process, which allows them to structure a rigorous inventory of materials as well as classification systems. Furthermore, the training received and the experience of direct engagement with the digital tools employed allowed participants to critically assess the vulnerabilities of their archives and to better understand the conceptual and technical aspects of devising a sustainability and longevity plan. For Eberhar Cano, the use of the CMS employed allowed him to create a management plan of the photographic archive under his custody, articulated to parallel projects for collaborative exhibitions in cultural venues in the city of Medellín. In this regard, the development of digital narratives in the CEM platform have provided all collaborators with a blueprint of creative and engaging ways to present their initiatives to a broad public within the platform's unifying framework, with the concept of cultural ecologies as organizing category. As discussed, this interpretative framework centres the relevance of the initiatives in terms of their contributions to the cultural ecology of practices that have diversified and sustained a memory culture as a pillar for reconciliation, peace and community building during the current post-conflict transition.

Indirect benefits were mainly associated with the articulation of the systematization process with the advancement of independent research and creative projects, and with the possibilities offered by ethnographic documentation derived from the project. Angélica Rodríguez reported that engaging with the classification of the interviews of her initiative played a key role in refining the conceptual framework as well as the central categories employed in her research. Through this process, the notions of memory, identity, and territory, emerged as central organizing categories, which facilitated both analytical and thematic coherence. For Rodríguez, aligning her project with the concept of cultural ecologies of memory, has led her to think more critically about how the preservation of the memory and knowledges of the women interviewed, and their work in the defence of human rights contributes to post-conflict community building (personal communication, July 2023). Similarly, Alexandra Chocontá Piraviqué reported being able to better conceptualize her doctoral project by her increased understanding of the role of archives and memory in peace building and reconciliation from a gender perspective. All initiatives reported gaining a greater

understanding of the role of memorialization and cultural practices in post-conflict societies, gained particularly through exposure to ethnographic documentation and interviews conducted with all participants during the development of the project. Moreover, creative documentary materials that resulted from this process, added to the documentary assets of each initiative, and provided creative materials that significantly enriched the digital narratives developed.

The benefits in terms of methodological and organizational advancement derived from the experience of active participation in the project included gaining relevant experience and professionalization in research and collaborative methodologies, as well as learning organizational and project management skills. For instance, as graduate research assistant, Chocontá Piraviqué gained exposure and experience in project planning, and in field research conducted under guidance, but autonomously. She also reported gaining communication, community engagement, and conflict resolution skills through the experience of navigating working with different community partners in Colombia, who had different interests and priorities with respect to their involvement in the model. All participants reported the benefits of learning from the collaborative and activist research methodologies employed, which they in turn aim at using in their own work. Angelica Rodríguez commented that she has been able to expand the objectives and horizon of possibilities of her initiative by her exposure to these methodologies, and she is currently using her materials and the tools gained for developing workshops with her collaborators in collaboration with cultural centres and memorial sites in Latin America. The experience of participating in the project also exposed participants to the use of project management tools, which they all reported conceiving as a professional development opportunity they can replicate in their own spheres of practice.

In sum, this article described a model of participant-centric research for the development and implementation of an equitable and sustainable digital ecosystem of knowledge and creative content production in collaboration with community memorialization initiatives working at the interface of redress and social justice. Through community engagement, using activist research, ethnographic, and audiovisual documentation methods, the model described was designed and developed to both understand and support the documentation and archiving needs of grassroots cultural initiatives advancing or documenting human rights activism practices, memory construction and symbolic reparation strategies in a transitional society. I have demonstrated how the collaborative model relies on low-cost digital infrastructures that not only serve the immediate documentation and archiving needs of the initiatives involved, but also implements a robust and sustainable digital ecosystem for the public sharing of knowledge.

By employing ethnographic and activist research methodologies, and centring the values of access, transparency, and knowledge democratization, this model offers new possibilities for visibilizing the memory activism and symbolic reparation strategies of participant initiatives, while serving also as a public humanities platform. This platform was designed to foster inclusive research and knowledge dissemination practices, making accessible for consultation the knowledges and experiences of social actors working from the grassroots level within the context of Colombia's post-conflict transition. The model's ecology of digital practices opens a range of opportunities for dissemination, and for broadening the scope of the initiatives involved, their actions and interventions as producers and custodians of knowledges that are of central importance for the promotion of a memory culture and for the sustainability of Colombia's ongoing peace and reconciliation process. The digital documentation, narratives, and practices that resulted from the development of this model, and the platform CEM used for its dissemination, gains increasing importance in the context of Colombia's post-conflict transition because it provides access to knowledges and practices that actively contribute to this historical process. The model therefore can be seen as contributing to the formation of transitional archives (Viebach 2021), a term used to refer to a plurality of records and practices that contribute to truth, justice, and reparation – foundational principles of transitional justice.

Integrating digital curation and storytelling strategies, CEM, the digital platform developed is used to give access to original archival and audiovisual documentation gathered during fieldwork, and to showcase in a web application each of the initiates to a broad public. CEM makes this body of documentation interactive and publicly accessible as a resource for consultation (except restricted content) to promote further research across different fields of practice and academic inquiry, including the areas of human rights advocacy and activism, transitional justice studies, memory studies, and peace studies.

Crucially, the ecology of digital practices implemented provides each of the initiatives with tools to secure and systematize their documentary assets in a digital archive modelled according to their needs and requirements. The architecture employed allows participants to securely manage and use their data autonomously, including accessing, retrieving, or migrating their documentary assets for other purposes, for example a digital exhibition or collection, another web application, or for its co-custody by a partner institution if the need arises. This architecture was designed to foster opportunities for broader dissemination, for the longevity and sustainability of the initiatives, but also to create conditions in which the memorialization initiatives involved can thrive and have greater impact within

their communities. This aspect gains increasing importance because of the context of precarity in which these initiatives have developed. The model proposed relies on the use of digital technologies to mediate /generate new forms of collaborative research and knowledge dissemination practices that benefit all participants, fostering a generative and redistributive approach to knowledge democratization. The ecology of practices that developed, it is hoped, can lead to the formation of a civic ecosystem, defined as "pathways to complementarity between diverse social actors driven by shared concerns" (Rangelov, Theros 2023, 799).

Founded on the principle of a dialogue of knowledges, this model for archiving and collaborative knowledge production builds on and foregrounds the wide range of knowledges and experiences of participants initiatives and the actors leading them, as well as their commitments to their communities and the post-conflict transition. The collaborative ecology of practices creates structures of support and accountability involving community and institutional partnerships that can offer data and documentation co-custody. With this ecosystem approach, the model advances digital ecologies for community digital memorialization, centring transparency, sustainability, and equity in access to digital resources. The model exemplifies an open and de-centralized ecosystem for digital curation and archiving, collaborative research, and participant-driven creative content creation to bring grassroots and community memorialization practices to the public digital sphere.

Bibliography

Alcadía de Medellín (2006). *Plan Parcial de Mejoramiento Integral del Barrio Moravia, Documento Técnico, Tomo I*. Medellín: Alcadia de Medellín.

Baldassari, D.; Diani, M. (2007). "The Integrative Power of Civic Networks". *American Journal of Sociology*, 113(3), 735-80.

Bloom, P.; Dees, G. (2008). "Cultivate Your Ecosystem". *Stanford Social Innovation Review*, Winter, 47-53.

Botero, C.; Restrepo, E. (2005). "Estándares internacionales y procesos de transición en Colombia". Rettbergh, A. (ed.), *Entre el perdón y el paredón: preguntas y dilemas de la justicia transicional*. Bogotá: Ediciones Uniandes, 19-66.

Caswell, M. et al. (2017). "Critical Archival Studies: An Introduction". *Journal of Critical Library and Information Studies*, 1(2), 1-8.
https://doi.org/10.24242/jclis.v1i2.50

Diálogo de Saberes (s.d.). "Nuestras Premisas". Website Diálogo de Saberes. Alternativas Eco-sociales.
https://www.dialogodesaberes.com/

Gaudry, A.J.P. (2011). "Insurgent Research". *Wicazo Sa Review*, 26(1), 113-36.
https://dx.doi.org/10.1353/wic.2011.0006

Hale, C. (2006). "Activist Research v. Cultural Critique: Indigenous Land Rights and the Contradictions of Politically Engaged Anthropology". *Cultural Anthropology*, 21(1), 96-120.
https://doi.org/10.1525/can.2006.21.1.96

Hayner, P. (2001). *Unspeakable Truths: Transitional Justice and the Challenge of Truth Commissions*. New York. Routledge.

Krøvel, R. (2020). "A Dialogue of Knowledges – What Can We Bring Home from the Plurivers?". Breidlid, A.; Krøvel, R. (eds), *Indigenous Knowledge and the Sustainable Development Agenda*. London: Routledge, 128-149.

Martínez Zapata, L.C. (2014). "Tugurio de Dios: el barrio Lenin de Medellín (1969-1975)". *Estudios Políticos*, 44(1), 221-41.
https://doi.org/10.17533/udea.espo.19541

Miller, S. (2011). *Metadata for Digital Collections: A How-to-do-it Manual*. New York: Neal-Schuman Publishers.

Ministerio de Justicia y del Derecho, República de Colombia (2012). *Ley de Víctimas y Restitución de Tierras y sus Derechos Reglamentarios*. Bogotá: Imprenta Nacional de Colombia.

Motha, S.; van Rijswijk, H. (eds) (2016). *Law, Memory, Violence: Uncovering the Counter-Archive*. New York: Routledge.

Orozco, I. (2005). "Reflexiones impertinentes: sobre la memoria y el olvido, sobre el castigo y la clemencia". Rettbergh, A. (ed.), *Entre el perdón y el paredón: preguntas y dilemas de la justicia transición*. Bogotá: Ediciones Uniandes, 171-209.

Orozco, I. (2009). *Justicia transicional en tiempos del deber de memoria*. Bogotá: Temis.

Pink, S. (2020). *Doing Sensory Ethnography*. New York: Sage Publications.

Pink, S. (2020). *Doing Visual Ethnography*. New York: Sage Publications.

Prussan, M. (2018). "Reflexions on the Photographic Archive in the Humanities". Helff, S.; Michels , S. (eds), *Global Photographies. Memory, History, Archives*. Magdeburg: Transcript, 133-54.
https://doi.org/10.1515/9783839430064-009

Rangelov, I.; Teitel, R. (2023). "The Justice Archive: Transitional Justice and Digital Memory". *London Review of International Law*, 11(1), 83-109.
https://doi.org/10.1093/lril/lrad001

Rangelov, I.; Theros, M. (2023). "Civic Ecosystems and Social Innovation: From Collaboration to Complementarity". *Global Policy*, 14(5), 797-804.
https://doi.org/10.1111/1758–5899.13248

Reiter, A.; Olsen, T.; Payne, L. (2012). "Transitional Justice and Civil War: Exploring New Pathways, Challenging Old Guideposts". *Transitional Justice Review*, 1(1), 137-69.

Rettbergh, A. (2005). "Reflexiones introductorias sobre la relación entre construcción de paz y justicia transicional". Rettbergh, A. (ed.), *Entre el perdón y el paredón: preguntas y dilemas de la justicia transición*. Bogotá: Ediciones Uniandes, 1-15.

Subramanian, H.; Raj, P. (2019). *Hands-on RESTful API Design Patterns and Best Practices: Design, Develop, and Deploy Highly Adaptable, Scalable, and Secure RESTful Web APIs*. Birmingham: Packt Publishing.

Teitel, R. (2000). *Transitional Justice*. Oxford: Oxford University Press.

Teitel, R. (2003). "Transitional Justice Genealogy". *Harvard Human Rights Journal*, 16, 69-94.

Velasco Trujillo, R.A. (2020). *Cultural Ecologies of Memory and Symbolic Reparation in Transitional Colombia. Practices of Memory by State and Civil Society Actors during the Post-conflict Transition* [PhD dissertation] [Unpublished]. Austin: The University of Texas at Austin.

Vilar, K.; Cartes, I. (2016). "Urban Design and Social Capital in Slums. Case Study: Moravia's Neighborhood, Medellin, 2004-2014". *Procedia, Social and Behavioral Sciences*, 216(1), 56-67.
https://doi.org/10.1016/j.sbspro.2015.12.008

Viebach, J. (2021). "Transitional Archives: Towards a Conceptualization of Archives in Transitional Justice". *The International Journal of Human Rights*, 25(3), 403-39.
https://doi.org/10.1080/13642987.2020.1811693