

Googlemapping and sharing digital memories after a natural disaster: community, places and digital media to remember the city of L'Aquila (Italy)

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Abstract: The understanding of memory process is tied up with the techniques and technologies used to construct and preserve images, narratives and stories about a specific event in the past. The digitalization of devices for recording and preserving content gives a new push to the debate about the process and the strategies of negotiating, sharing and collecting memories. From a sociological and communicative perspective, the debate deals with the question of how technologies are involved in the process of constructing both autobiographical and collective memory.

This contribution is focused on the analysis of a social platform called “Noi, L’Aquila” (“We, L’Aquila”), created by Google to contribute to the social reconstruction of the city of L’Aquila (Italy), struck by a powerful earthquake in April 2009. The platform is composed of two different parts: 1) “Explore and Remember”, allows people to virtually explore the city with Google Street View, share their memories, testimonies and feelings tied to specific geographic locations and upload photos, videos and short life stories to remember the city and the days before the earthquake; 2) “Inspire the Future”, allows to model the city in 3D to contribute to reviving the city's heritage and inspiring its physical reconstruction.

The paper presents the results of the qualitative-quantitative content analysis of the posts published on the platform. The goal of the research is to verify if and how an online social platform intervenes and contributes to the construction and preservation of the memory of L'Aquila. More specifically, we focused our attention on the "locations" of memory; the narrative characteristics of the posts; the role of the temporal dimension in the content shared online and in the processes of construction of collective memory.

The main findings of our analysis show that, in the case of the “Noi, L’Aquila”, citizens use the platform in order to preserve biographical remembrances interwoven with the collective memory of the past of the city; to express emotions and biographical anecdotes; to overcome the trauma.

Keywords: memory, trauma, disaster, social platform

Media have always played a pivotal role in the process of constructing and negotiating the collective memory, which is always socially and culturally founded. They can be used for content circulation, revival and storage. For this reason the media storage system, made up by devices and content, is called “media-theca” (Brancato, Jedlowski and Luchetti 2010).

The contemporary understanding of non-biological memory process is strictly tied up with technologies and techniques used to construct and preserve images, narratives and stories about a specific event of the past. In the last decade the spread of digital media and especially the Internet has introduced significant changes in the process of negotiation, circulation and storage of the collective memory. The digitalization of devices for recording and preserving content gives also a renewed push to the debate about practices and strategies of negotiating, sharing and collecting memories. From a sociological and communicative perspective, the debate deals with how ICTs intervene in the process of constructing both autobiographical and collective memory.

In the next two paragraphs, we will describe key aspects of the digital memory process and introduce the main concepts and theories that we are going to deal with. Then we will illustrate the case study of “Noi, L’Aquila” (section 3), a social platform realized by Google

to contribute to the social reconstruction of the city of L'Aquila (Italy), hit by a powerful earthquake in April 2009 and the aims and methods adopted. In section 4 we will present the findings of our analysis and then (section 5) draw conclusions.

1. Collective and individual memories and traumatic Past

The human sciences have demonstrated how the inner idea of ourselves depends on the glances of the others. What we are is the result of the image we can see in our inner mirror and that emerges from the discourses produced by other about ourselves. A lot of these discourses are about what we have done, what we have been a part of and the traces we leave behind. With these simple words we try to synthesize the complex process of construction of our personal and social identities that are strictly linked also with the process of memory.

Each individual tends to remember personal experiences on the basis of specific criteria of remembrance, and at the same time he/she shares some memories with people that belong to his/her culture or with people that come from the same place.

There are several studies about the process that put in relation the personal stories of individual with the macro-narration of a specific community, but what is interesting for the aim of this paper is that all of these empirical studies tend to distinguish two main families of memory: the autobiographical and the collective one.

The *autobiographical memory*, also defined as *episodic memory*, can be conceptualized as “a mental state resulting from the interplay of a set of psychological capacities — self-reflection, self-agency, self-ownership and personal temporality — that transform a memorial representation into an autobiographical personal experience” (Klein and Cosmides 2004:263). From this perspective, autobiographical memory represents a cognitive competence able to manage information about the Self and the personal identity. It is strategic to ensure the general coherence of the Self and of the personal life story.

The *collective memory*¹ can be defined as a collection of images of the Past that a social group preserves and recognizes as significant elements of its history (Halbwachs 1950). It is the result of an incessant process of selection, more or less voluntary, addressed by the needs of the Present, and it represents an essential factor of the group identity (Jedlowski 2001). Zerubavel uses the word “coagulation” to describe this phenomenon; in particular he describes the construction process of a coherent continuity between the past and the future as a result of coagulation of “non contiguous patches of the history into a single, seemingly continuous experiential streaming” (2003:8).

This means, first of all, that the memory – collective or individual – cannot coincide exactly with facts, as they happen. Rather, it is focused on particular and contingent factual aspects. *Memory is selective*.

Secondly, selection implies an ordering process of the single element into a coherent narrative. *Memory is a process of ordering*. This means that thinking or talking about a specific memory constrains the individual to impose a specific sequence of the facts, giving order to the episodes and, at the same time, to the emotions associated with them.

Thirdly, memory is dynamic since it is not fixed for all the time, but is object of manipulation, according with the emerging interests of a specific historical period. This is the reason why it is common to hear the expression that “History is written by the winners”. In other words, the collective memory concerns “the continuous active process of sense making and negotiation between past and present” (Ferron and Massa 2011:115). *Memory is a manipulative process* based on the negotiation of different version of the same facts.

Collective and autobiographical memories are deeply interwoven since some events, far or near to the individual, enter to be a part of his/her story, according to their relevance. This process of melting between “who-I-was” and “what-we-were” is based on narratives production and circulation. As Sciolla (2005) suggested, the most diffused *device of memory* is the narration because “narratives constitute the linguistic resources that allow to give a form to the memory, the logic structure that organizes the Past, and, therefore, the primary

interactional space between the individual and social dimensions of the process of the memory” (Fanchi 1999: 115). In fact, narration is a social practice (Halbwachs 1950), able to link the individual to the social memory in a common story, generating a sense of belonging to a specific culture and creating a sense of coherence of the Self.

In the case of personal memory, the individual creates and stores different kinds of narrative scripts that build a repertoire of memory about a personal story. On the other hand, in the case of collective memory, we assist to a process of *coagulation* around a collective image of the past (Zerubavel 2003) through the narrative action. Collective memory plays an important social role in processing and sharing of the past, affecting “the attitudes toward the present, highlighting collective needs, re-defining cultural identities, leading sometimes to political and institutional changes and persisting for many years and generations” (Ferron and Massa 2012).

In this contribution we focus our attention on a specific case of collective memory: memory of a traumatic event. This kind of social event shocks the inner core of community identity. In case of traumatic events, narratives are fragmented and focused on specific details, like the classical impression of a photographic film. Content constitutes the so-called “flashbulb memory” (De Caro 2005). At the same time, the regular mechanism of sharing narratives with others is compromised, forcing people involved to postpone the trauma processing.

When a big disaster occurs, it creates the paradoxical situation in which there should be an unconscious need to share emotions, feelings, anecdotes about the event (Paez, Rimè and Pennebaker 1997) alongside a natural block in producing narratives (caused by the trauma) (Benjamin 1936). But what role do the digital media play in constructing and negotiation individual and collective memory after a collective traumatic event?

2. Digital memories: Internet and its power. New chances?

The topic of digital memories deals with the social practices of sharing, negotiating and archiving narratives and content (Cohen and Rosenzweig 2005; Brennan and Mills 2010). It needs to be analysed from two different perspectives: the first purely technical and the second more sociological.

Digitizing content means above all traducing it into a new format that is basically made up of bits. New formats require both new ways of archiving content and new devices for reading and preserving it. In other words, the technical aspects of the new forms of memories mainly concern the places and ways in which content is stored. If we focus our attention only on the Internet, it can be defined as a new powerful, potentially endless, and intangible archive (Mayer-Schonberger 2009).

Nowadays it is no longer important to physically preserve what is commonly associated with a personal or collective memory (photos, songs, films etc.). There are a lot of digital services that allow to save and share content online, making it always reachable and available. In this way what was the *paradigm of tangible cultural preservation* is gradually being overcome by the logic of digital distribution and redundancy (Pessach 2011).

In fact, digital memory offers a new context for both personal and collective remembrances. As Maj and Riha pointed out “although this memory is still personal or local, it also reaches a global aspect creating new possibilities and threats for information seekers, users or distributors. In this context, data storage becomes more that just archiving – it acquires the power of knowledge” (Maj and Riha 2009:2).

To better understand the potential of the digital content it is helpful to reflect on the four properties that characterize it:

- 1) persistence: texts, photos and videos are stored indefinitely and last for a long time;
- 2) replicability: the digital nature of content makes it duplicable;
- 3) scalability: online content can potentially have a high level of visibility;

- 4) searchability: information can be easily retrieved by anyone through a simple web search (boyd and Ellison 2008).

But it is worth noting that these four characteristics applied to the topic of digital memories and digital narratives rise some ethical problems (Farinosi 2011). How much people are aware that usually to post something online means to publish it, to let it public? What kind of control can people have on digital content that affects them directly or indirectly?

According to Mayer-Schonberger (2009) using the Internet as personal or collective archive masks some currently underestimated dangers. Sharing content online reduces individual control over what people want to let know about themselves. Furthermore, there are also other technical factors that intervene in the practices of archiving:

- 1) the fast obsolescence of ICTs which are always replaced by new models of the devices and new formats of the content;
- 2) the rapid update of online content that causes a shift toward the bottom of the results produced by search engines about the older content;
- 3) the ephemeral nature of the Internet, both as technology and context, that is volatile and intangible. In this respect Castells pointed out that “we face with a culture that is at the same time eternal and ephemeral” (2000:526).

Given that the Internet is not only a new technology but also a social context, or better, from a narrative perspective, a narrative-meta medium, a collective space where people share “fragments-de-vie” (De Carli 1997) we need to consider the sociological implications too. In the case of memory this means that the collective archive of memory coincides with the social context of its negotiation. In plain language, on the Internet sharing digital content often means also preserving it. Thanks to the spread of social media and, more in general, of Web 2.0 applications of self-publication (e.g. social network sites, blogs and video or photo sharing sites), it has become easier to use online platforms to upload and share digital content. The personal profiles or web pages of the users can be very dynamic and subject to constant updates. If we analyse this practice in the light of the process of memory we can say that it has been respected one of the criteria cited before: also on the Internet, the process appears dynamic.

However, memory is also a selective process. And, according with the position described above, publishing online is not selective, but it is definitely comprehensive. This is the reason why it is important to distinguish the practice of remembering, which has for object the digital memories, from the practice of archiving, that concerns online content.

As Riha (2010) suggests, “new strategies of dealing with data are the answers to questions of new everyday practices associated with the use of technology. The convergence of new media provokes new users’ strategies” of remembering and memorizing (Maj and Riha 2009:XII).

If we distinguish the practice of archiving from the act of recovering specific event from our past, both personal or social, we can also identify two different online actions that deal with the two faces of the memory process:

- 1) The conscious *selection* and *publication* of content with the specific aim to remember. It is the case of some sites², more or less interactive, based on the idea of reconstructing the main steps of an event (from several perspectives), or of remembering certain facts or people. In this case it is possible to talk about digital memories as *defined, pre-elaborated content*;
- 2) The act of *surfing* online, selecting from the results of a specific keyword search. In this case, the memory is considered as a process that is:
 - a. unique, because connected to a specific experience of surfing and because the online content is continually updated;
 - b. personal and personalized, because it depends on the choices done by the user and on the keywords and links explored. In this case digital memory is a practice resulted from specific digital action.

As De Carli (1997) suggested, “each surfer crosses a different textual space, describing deeply personal virtual paths. Each path is a kind of narration, made up of the exploration

time and the spaces of the websites (...) each surfing is an unrepeatable narrative because all the conditions from which it originates cannot happen again because of the perpetual modification of the information spread on the Net” (De Carli 1997:74-75). This is true both for the individual and collective memory.

There is another interesting aspect related to this point. The Internet is commonly considered a democratic context, where anyone can participate and publish content, exposing his/her personal point of view. This leads to the definitive abandonment of the traditional definition of “public” to describe people who use the Internet as a medium, in favour of the new expression of “networked publics” (Varnelis 2008; Boccia Artieri 2009; boyd 2010). It underlines the logic of grassroots participation, the centrality of the individual as central hub of a personalized network and the plurality of the audiences.

Discussion about networked publics (Varnelis 2008; Boccia Artieri 2009) allows to highlight the active involvement of surfers in the process of construction of a public sphere, where it is possible to exchange narratives, the same narratives that are object of mnemonic manipulation.

The *networked public culture* is thus “the individual and interpersonal cultural construction that has the opportunity to get out of a situation of marginalization in order to become a public language, a language that, starting from the bottom, is able to mix, stimulate, converge and diverge with the mass-languages” (Boccia Artieri 2009:24).

In the case of memory process, and in particular of collective memory, this means that all people are potentially involved in the definition of a shared collective narrative about the past, about a putative History of the Western Culture, without the pressure of a centralized power (Lovink 2011).³

The narrative perspective also offers a common point in analysing the Internet and the process of memory, and we can say that the Internet and memory work on using the same important tool: the narration. In this respect the Internet can be interpreted as a digital, powerful and potentially infinite memory archive, and the online environments as semi-public spaces (Farinosi 2011; Strauß and Nentwich 2013) - virtual hybrid spaces, neither entirely public nor private - where the autobiographical and collective memory can be negotiated and preserved and where it is possible to track the distributed Self, through the collection of posts, comments and messages published by the net-user. On the Internet people disseminate fragmented narratives, participating - more or less consciously - at the process of sedimentation of tracks about the Self and the Past. This content can become digital memories when the aim of publishing is to create a track, to re-member⁴, or when the aim of surfing is to go in search of content about a specific story or event.

3. Digital memories after a collective trauma: the case study of “Noi L’Aquila”

“Noi, L’Aquila” (in English, “We, L’Aquila” - <http://www.noilaquila.com>) is an innovative project realized by Google in collaboration with the City of L’Aquila, the ANFE (National Association of Migrant Families), and the British architect Barnaby Gunning. The main goal of the project is to develop an online social platform to let users contribute to reviving and remembering L’Aquila.

L’Aquila is a small Italian city (around 75,000 inhabitants), capital of the mountainous Abruzzo region, located approximately 85 km northeast of Rome. On the 6th April 2009 at 3.32AM it was hit by a 6.3Mw magnitude earthquake which represents Italy's worst disaster in the last 30 years. 309 inhabitants were killed, thousands were injured and around 65,000 lost their homes. The seismic disaster caused significant damage to more than 10,000 buildings in the city of L’Aquila and in the surrounding villages, destroying a large part of the medieval centre and historic and vintage edifices as well as many essential infrastructure networks (Farinosi and Micalizzi 2013). Many structures collapsed and serious damage occurred also to transportation facilities, lifelines and utilities. As illustrated in Farinosi and

Treré (2010) “immediately after the earthquake, downtown L’Aquila was declared “zona rossa” (“red zone”) and police forces and their barricades permitted access to only a small portion of the historic city centre, the traditional social and economic heart of L’Aquila. Most alleys and squares were closed off, impeding entrance to citizens and the downtown’s inhabitants”. Two years later the situation had not substantially changed: most parts of the city centre were still under military control and the access was denied to the citizens.



Figure 1: A screenshot of the “Noi, L’Aquila” platform

In this dramatic scenario Google decided to offer its tools to help saving the memory of L'Aquila, creating “Noi, L’Aquila” (Fig.1), a social platform that aims: a) to digitally rebuild the city by sharing memories and past experiences; b) to preserve its collective history through photos, videos, and short stories; c) to give international visibility to L’Aquila in the hope of promoting tourism; d) to inspire and facilitate the reconstruction process through 3D models.

“Noi, L’Aquila” constitutes a pilot project of a larger global platform that Google aims to make available in all countries and communities that may face similar catastrophes, in order to preserve the memory of the cities devastated by the disaster and pass it on to future generations⁵. Providing thousands of miles of Street View imagery of the affected areas, Google aspires to help people to rediscover lost memories of their alleys and houses.

The greatest merit of this project is to consider the city not only a geographical space, but also a web of relationships, stories, desires; to give visibility to individual personal stories; to remember that history is made first of all by people; and to make collective memory accessible to a vast and varied public. After the 2009 L’Aquila earthquake, a similar website, called “Mirai e no kioku”, which means “Memories for the future”, was developed by Google for the 2011 Japan earthquake and tsunami.⁶ But “Noi, L’Aquila” is not the first example of a functional archive to re-appropriation of part of the collective memory. Two important previous experiments are represented by “911digitalarchive”, the online collection of stories, images, emails, documents, sounds, and videos of the September 11, 2001 attacks⁷, and HDMB (Hurricane Digital Memory Bank), created after Hurricane Katrina, which devastated New Orleans and its community in 2005⁸.

The “Noi, L’Aquila” platform is both in Italian and English, and can be accessed from either computers or a mobile devices, like smartphones or tablets. The website is composed of two different sections (see Fig.1):

- 1) The “Explore and Remember” section, allows people to virtually surf and explore the city as it was before the earthquake using the old images captured by Google Street View technology. Users can virtually walk through the images as if they were

there and leave their memories, testimonies and feelings tied to specific geographic locations represented on the map in form of yellow hot spots. They can also upload and share photos, videos and short life stories to remember the city and the days before the earthquake;

- 2) The “Inspire the Future” section, allows to rebuild and model in 3D the buildings as they actually were before the seism, contributing to reviving the city's heritage and inspiring its future physical reconstruction. A team of more than 400 volunteers led by Barnaby Gunning, met in the centre of L'Aquila for 7 weekends, between September and October 2010, and took photos documenting the state of each building of the historic part of the city. They collected more than 50.000 photographs and uploaded them on an online interactive map of “Noi, L'Aquila”. Thanks to some free Google tools such as SketchUp and BuildingMaker, training workshops and online video tutorials people from all over the world can work on the realization of the 3D models and participate to the virtual reconstruction of L'Aquila.

Talking about the “Noi, L'Aquila” platform, the Mayor of L'Aquila, Massimo Cialente, explained that the project represents “a way to make known L'Aquila and its attractions, its glorious past and its present of a city that wants to live again [...]. A bridge between us and the future, through a common memory of emotions and feelings, which are then the basis of our identity and our gathering as individuals and as a collective”⁹.

Our analysis is focused only on the first section of “Noi, L'Aquila” platform because, from a sociological point of view, it constitutes the most interesting part of the Google project. We collected all the posts (N=278) published on that section from the launch of the platform until the end of November 2011 and first conducted a quantitative analysis of the posts and after a qualitative analysis of their content (Corbetta 2003; Silverman 2011; Marvasti 2004). According to Neuendorf, content analysis is “a summarizing, quantitative analysis of messages that relies on the scientific method and is not limited to the types of variables that may be measured or the context in which the messages are created or presented” (2002:10). Through the quantitative content analysis we measured frequencies of memories related to certain places and investigated if people leave comments more on private or public locations, if they add posts to places significant in relation to the specific event (like collapsed buildings or tent camps set up by Italian Civic Protection), etc.. On the contrary, through the qualitative analysis we identified the most common categories of discourse that emerged from the content of the posts.

The overall objective of the present work was to verify if and how an online social platform intervenes and contributes to the construction and preservation of the memory of L'Aquila. More specifically, we focused our attention on:

- the “locations” of memory, in order to understand how the online distribution of memories can produce a topographical map of the memory of the city;
- the narrative characteristics of the posts shared through the platform;
- the relationship with the Past and the role of the temporal dimension in the content shared online and in the processes of construction of collective memory.

The majority of the posts were written in Italian, but there are also two posts in the local dialect, two in English and one in Spanish. The return to the use of the local dialect, also present in other online platforms created after the earthquake (i.e.: diceche.com), can be interpreted as a way to strengthen ties with the local community and collective identity threatened by the disaster. The use of English and Spanish, on the other hand, can be attributed to comments left by tourists or foreigners who have lived in the capital of Abruzzo and/or are particularly bound to that territory.

The posts analysed are particularly heterogeneous: they include excerpts of full-bodied text - rich both in terms of content and emotions, with a strong autobiographical dimension - and text clearly taken up and re-mediated from other digital and textual environments (i.e.: art history books), without a personal point of view, but however useful to return the description of a place.

The observations that follow are the result of an investigation which aims at simplifying the variety and complexity of the corpus of data, and, at the same time, seeks to provide an interpretative model able to explain and imagine the possible paths of appropriation of the Google platform. The study, therefore, represents a first stage of a larger research that is currently being carried out and which also intends to make a comparison of the case of “Noi, L’Aquila” with other similar platforms in the world, to observe cultural traits and identify possible trends.

4. Findings

The quantitative analysis of the posts published on “Noi, L’Aquila”, summarizing in Table 1, shows the frequency distributions of the locations of memories on the map of the online platform. The results show that the whole collection of posts published on the platform is located in the medieval city centre - the traditional social, political and economic heart of L’Aquila - and demonstrate a high prevalence of public spaces, which are part of the historical memory of the city, pointing out the collective and communicative vocation of the initiative launched by Google. Among the most commented-upon places there are churches, public buildings and fountains of L’Aquila.

At the same time, however, there is also a significant percentage of posts dedicated to private houses. If we correlate this data with the large number of comments related to alleys or streets - often cited as places linked to the address or area where people lived - it is evident that also the narrative of contexts considered more personal, intimate and deeply rooted to their own identity and history occupies a relatively large space.

However, the locations linked to the post-seismic phase, such as the big tent in Duomo square set up after the earthquake and which immediately become a meeting place for citizens and activists, or the numerous tent camps, are poorly indexed, and this data confirms the mission of the Google platform, the aim of which is precisely to provide a space for the reconstruction of memory related to the city. This absence can be interpreted in the light of the main studies on post-trauma narrative practice (Rime 2008 and others) that demonstrate how an anguishing past often produces a sharp reduction in narrative production. As suggested by several scholars, the narrative process "obliges" the narrator to submit to linear logic of the text and, at the same time, to objectify a past which, in the case of trauma, is often confused, complex, full of strong and conflicting emotions (Jedlowski 2004; Demetrio 2009).

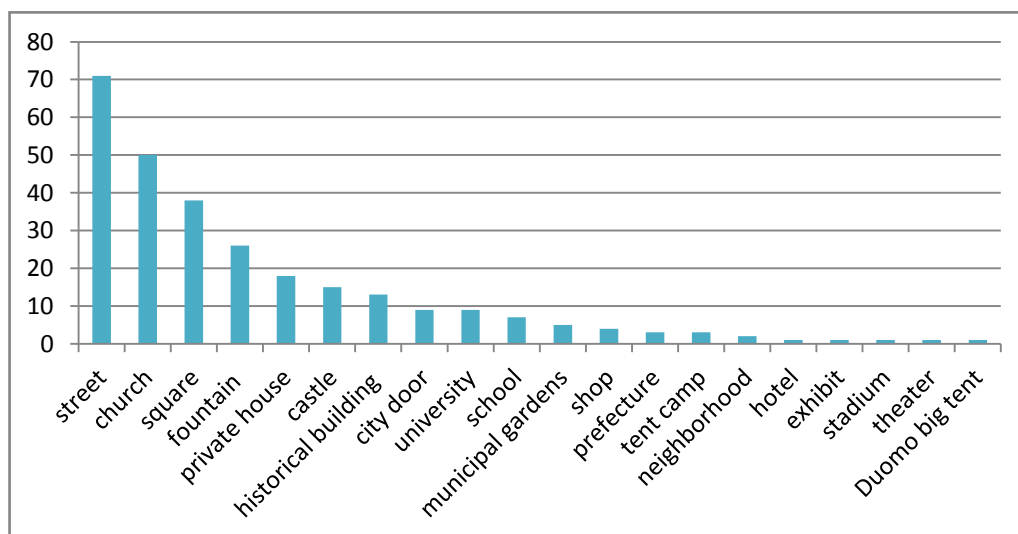


Table 1: Frequency distributions of the locations of posts (N=278) on the map of “Noi, L’Aquila”

Storytelling is a complex processing step that requires time and probably, at the time we extracted the data from the Google platform, people had not yet had enough time to reprocess the trauma. Proof of this hypothesis is the fact that the few posts dedicated to the tent camps were written by volunteers from National Civil Protection or fire-fighters who participated in the rescue operations and not by the citizens of L'Aquila.

Table 1 represents in quantitative terms the number of comments linked to each category of places present on the virtual map of L'Aquila. It is, however, necessary to specify that some comments may refer to more than a single location, and this phenomenon highlights the strong "topographic dynamism" of the memories of the city. For example, starting from a comment related to a certain location, the author tells about the path to reach the bus stop from the school and takes the opportunity to talk about other significant places of the city:

It was 12:55 and I, along with my friends, get out of the school. Turning the corner we admired the art and the beauty of the panorama of Castle Street, and, at the bottom, Castle city door. Once arrived at "Ju Boss" (A/N: a popular tavern), we passed from Garibaldi Street to Castle Street. We walked down that street to reach the bus stop. We were there 15 minutes waiting for the bus. How many laughs and nonsense, races in the park, jokes and unforgettable falls! [...] (author: Marco Massimo | location: Fortezza Spagnola (castle), Viale Benedetto Croce, 2 | date: 09/06/2011).

For this reason it was necessary to adopt an integrated approach in order to both identify the characteristics of the posts and conduct a deeper analysis.

The qualitative approach has allowed us to classify the posts according to some categories, mainly linked to three different conceptual drivers:

1. the subject of memory. The posts have basically two types of subjects: the "I" narrator and the "we", the social circle, the totality of the citizens of L'Aquila;
2. the location of the memory. It can be essentially linked to two possible types of spaces: public spaces of the city and private spaces (in most cases the author's house or other significant private areas);
3. the time of the story. From all the posts on the Google platform, it is important to identify a temporality of the textual content which is distributed on an imaginary continuum that goes from the remote past - generally the period of the author's childhood or adolescence - to the present. This temporal distinction sheds light on the relationship between the story and the earthquake, the traumatic experience of the loss of some places.

Starting from these conceptual drivers it is possible to classify the posts on the platform into four ideal-typical categories: 1) personal past; 2) shared past; 3) complaint; 4) historical reconstruction. It is worth marking that these categories are not always able to reflect the narrative richness and complexity of all the posts, but they can provide a fairly clear picture of the kind of content created by users.

The first category includes all those posts in which the subject of the story is the author of the post in the first person. They are focused on the ego and show a strong bond with spaces considered private, intimate, usually marked by the use of possessive pronouns as "my home", "my alley", "my street". In this kind of narrative some shared places, such as the school, the neighbourhood or the most frequented bar, are subjected to a process of biographic re-territorialisation.

My square, my parish, my life in adolescence...I was baptized in this church in 1981, I made my first communion in 1991 and confirmation in 1996...how many times I played football in that square...me and my group of friends were the last guys to play football in a square of the old town...then, when cars started to park even in our "pitch", we had to go [...] (author: Cancer3.10 | location: Chiesa di Santa Maria Paganica (church), Piazza Santa Maria Paganica, 2-4 | date: 21/07/2011).

The temporal dimension is more complex. The majority of personal experiences refer to the past but it is not always treated in the same way. Some of the posts in fact summarize a *crystallized personal past*, in which the memory seems to remain clear and focused only on a previous time period.

My first kiss with Francesca, my first love of my life. The soundtrack of that memory was Franco Battiato and his "center of permanent gravity" (A/N: title of a Battiato song). At that time no one had yet found it, but there were a lot of expectations and projects for the future. Today, 50 years later - then I was just 16 - the staircase is still there, I took a path in life and Francesca a different one. Since that summer, we have not met. But the memory is always beautiful. (author: valmarco62 | location: Basilica di San Bernardino (church), Via Panfilo Tedeschi,6 | date: 15/06/2011).

Other posts instead reflect a *perspective personal past*, in which the expository writing evolves and from the past arrives to the present, with explicit references to the current situation of the location and of the author's biography.

I remember when I was a child and played with my cousins in Duomo square, in front of the church of Santa Maria del Suffragio. I enjoyed playing ball in that square that up to April 6, 2009 was the heart of our city. Today, two years after the earthquake, this place is still damaged, but soon, many other children like me, will return to play and have fun in the old heart of L'Aquila. (author: KATEKATE | location: Piazza Duomo, 36 (square) | date: 09/06/2011).

In some cases the personal past is hidden behind a narrative that, from a declarative perspective, appears impersonal but, to a more careful reading and analysis of the evaluative tone used, betrays the presence of the subject and the bond with the place, as if there was an implicit memory that remains strictly personal and therefore cannot be shared.

Very lovely little place! (author: elena.barnabba | location: Convitto nazionale (school), Via Roma, 6-16 | date: 02/09/2011).

Finally, there are also few posts - usually written by people outside L'Aquila - that relate directly to the memory of the day of the earthquake:

The Easter holidays had arrived, and at home there was the usual confusion: every time we come back in Italy it seems to me to organize a complete removal, even when we go there only for few days [...] Since I live in Belgium I was no longer able to go back to L'Aquila, and I missed it. We left on the morning of April 6. As I closed the suitcase I heard on the radio something about Abruzzo, but I did not pay much attention. After two hours the plane landed in Italy, and what the radio said was very different. Since then I have gone back to L'Aquila only once, and it was not a nice experience [...]. (author: sandro.delia | location: Chiesa Santa Maria di Roio (church), Piazza Santa Maria di Roio, 1 | date: 26/08/2011)

The shared past is instead characterized - from the narrative point of view - by the prevalence of the "we", the constant recall of old memories, and the reference to public and/or collective places. Actually this reference to the collective - through the use of plural pronoun - presents different nuances. In some cases it refers to a group of people close to the author of the post: neighbourhood friends, scout group, family members, etc.. In other cases there is a clear reference to specific social categories of people, such as "student population" or university world. In these cases the "we" has a generic connotation: it refers not only to close acquaintances but also to all those anonymous strangers that before the earthquake have shared a place or an experience with the author of the post.

The house that has hosted us for all our university years, until 6 April 2009. A house which contained and contains our experiences and our thousand memories. If those walls come to life, they would speak of our colourful breakfasts, lunches and dinners with numerous friends and neighbours [...] If this house could talk, it would speak about us, the girls of Chiassetto d'Arischia (A/N: the name of the alley) who lived the house completely and were able to create moments of pure fun and happiness, even while cleaning, with the stereo at full blast, singing songs of De Andrè, Vinicio, Ligabue, Loredana Bertè, Queen and dancing to the rhythm of the Taranta, sipping a glass of wine [...] (author: scmia | location: Casa di Tolleranza (private house), Chiassetto d'Arischia 2 | date: 24/06/2011)

Less present but equally significant for our analysis are the complaints. In this case at the center of the narrative there is an impersonal “we”. All the posts refer to the current post-earthquake situation of the city and are related to a public place. They are characterized by a strong sense of belonging to the collective and community identity and to the city. Very often the texts are short and harsh, dense from the emotional point of view and their tone is marked by the use of strong punctuation, such as numerous exclamation points, or of words written in capital letters, commonly interpreted as shouting in computer mediated communication.

That day the square was LIVELY with its market and the PEOPLE who frequented it. When will it return to LIVE??? (author: Islauta | location: Piazza Santa Lucia 3 (square), Via dell'Ospizio 1 | date: 23/06/2011)

We don't get angry with the nature, but with those who, day after day, steals us also what we have not. (author: f.santopietro | location: condominio "Strinella" (private house), SP113, 140-174 | date: 14/11/2011)

Finally, there are all those posts that can be classified under the category of “historical reconstructions”. Given that the majority of the posts that belong to this group was written by a user named “scuola.carducci.aq”, a junior high school of L'Aquila, one of the possible interpretation (not yet verified) is that Google has tried to involve in platform content enriching also some of the city schools. Or it is also possible that some teachers, particularly attentive to the art history of L'Aquila, have pushed their students to populate the platform with more didactic content, probably taken up from art history books.

The posts of this last group are focused on L'Aquila and, because of the kind of excursus offering, have clear references to the historical past of the city. They are characterized by an impersonal nature, are purely descriptive, and refer to public places of cultural interest.

Consecrated to the Assumption of the Virgin, the church was commissioned by the castle of Paganica and dates back to the thirteenth century. The church shows the Angevin architectural design. It was imagined as a barrier that closes the buildings towards the center. (author: scuola.carducci.aq | location: Chiesa di Santa Maria Paganica (church), Piazza Santa Maria Paganica, 2 | date: 08/06/2011)

Although this kind of posts does not seem to be very effective in terms of communication and useful to the aims of the Google platform, it has its own importance in the processes of reconstruction and preservation of the shared memory of L'Aquila. In this case we can speak of a “confirmation memory” (Namer 1996), a memory that supports an already tested and approved history of the city, providing a new digital context for its preservation.

Starting from the four ideal-typical categories mentioned above, we have realized a summary matrix that shows an interpretative model of the different types of memories present on the Google platform (Fig. 2). Crossing the subject of the narrative with the locations on the

digital map, it is possible to identify four quadrants that correspond to the four types of narratives categorized before.

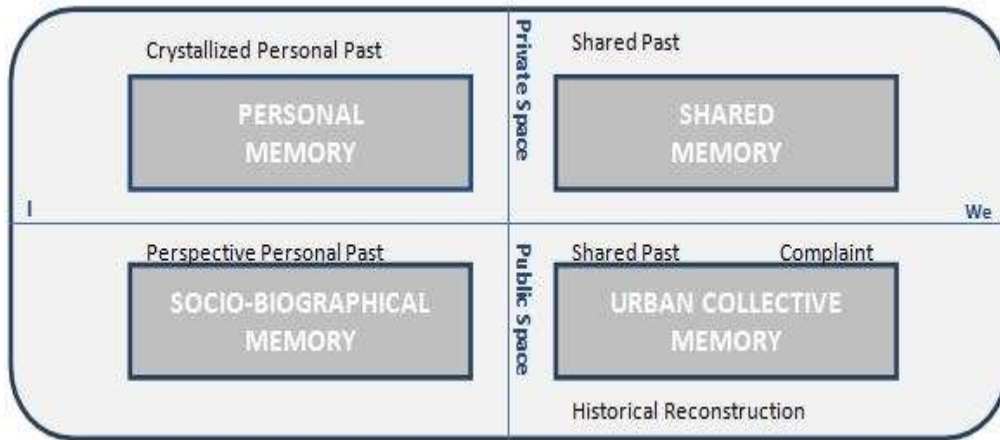


Figure 2: Interpretative model of the different types of memories present on the Google platform

In the upper left quadrant there are all those narratives that refer to the “**personal memory**” of the subject. They are biographical excerpts characterized by a highly emotional content and tell L’Aquila through the experiences of the people. They constitute a meeting point between the city’s history and personal/family story.

Beautiful memories bind me to this beautiful building of L’Aquila: university years. The more beautiful date is 12/19/1995, the day when I graduated in Literature. The auditorium was full of parents and relatives, bouquets of flowers, and especially the joy of having reach an important milestone in life. In this building there is a piece of my life that can never be erased. (author: annamasci | location: Palazzo Camponeschi (University of L’Aquila), Via Camponeschi, 2 | date: 24/06/2011)

In the bottom left quadrant there are the narratives focused on the author itself and located in a public space. In this kind of posts people talk about themselves and L’Aquila constitutes the context of experiences that are important for their life. We can define this type of memory as “**socio-biographical memory**”, because usually the story recalls moments that are integral part of social life, such as going to school, attending the scouts, and so on.

My sister and I spent most of our free time here, along with a few friends who lived around. Every Saturday we went to catechism, and, when we went out, we played football, chased each other, played everything we could think of. On Sunday we went to church and I was an altar girl. I’ve spent my whole life in that neighbourhood and even now it’s in my HEART! (author: Gloria Marinelli | location: Chiesa di San Pietro di Coppito (Church), Via Roma, 36 | date: 09/06/2011)

In the upper right quadrant there are those posts that, even if located in private spaces, revoke events common to most people. This is the case of heartfelt remembrances of “we, migrants” or “we, non-resident students” or “we of the * street”. All the posts are set in specific places, in general alleys, streets and houses, where the semantic mechanism of demarcation described above is particularly strong and therefore the pedestrian paths become “our street”, the houses “our condominium”, and so on. We have defined this type of memory “**shared memory**” because, even if it maintains a personal touch, intercepts other stories, without becoming collective or public.

Tartari House, 5 years of university, hundreds of friends, unforgettable evenings, unique episodes, sometimes paradoxical, incredible days. The best years that a student could have lived during his college career. Tartari House was the daily meeting point for a lively and close-knit group of students, the place where things happened, the stories were born and finished, events at the edge of the imaginable. But too precious to all those who lived there (author: simone.goingo | location: Casa Tartari (private house), Via del Capro, 17-29 | date: 12/07/2011)

Finally, in the lower right quadrant there are those posts whose subject is the “we”, which are related to public spaces. This quadrant includes not only the historical reconstructions, but also some shared experiences like that of a user who writes:

A meeting place for us that in the 80s skipped school that for the first time have won, embraced and kissed a girl in the midst of this beautiful gardens. wonderful
(author: domenicocarducci | location: Il Castello (castle), Viale Benedetto Croce, 2 | date: 13/08/2011)

HOW MANY SOLES OF SHOES WE HAVE LEFT HERE, UNDER THE COLONNADE, GOING ON A STROLL DOWNTOWN. IT WAS BEAUTIFUL GATHER HERE.....
(author: domenicocarducci | location: Corso Vittorio Emanuele, 32.44 (street) | date: 13/08/2011)

The same words could be shared by many citizens of L’Aquila, of today and yesterday, and tell of a place which becomes protagonist together with the city that hosts it, the traditions and the experiences of the citizens. It is therefore possible to reconstruct through the posts a “**collective urban memory**”, the memory of the city and its inhabitants.

5. Conclusions

The findings of our analysis demonstrate that nowadays digital media have become integrated into the very fabric of social life, not only in ordinary times, but also in extraordinary ones. The Web is not a separate sphere, but part of the social reality and digital engagement manifests itself in a vast range of media practices. Thanks to projects like “Noi, L’Aquila”, people can discursively engage through and with online platforms, dissolving spatial and temporal boundaries and trying to overcome the trauma related to the earthquake. In this regards the narrative constitutes an essential part of individual and community history and a powerful tool for memories transmission. Digital platforms therefore allow not only the relaying of memories related to a specific event through textual or visual communication, but also the capturing of narratives and their transmission to future generations. The combination of narrative and computation has a considerable unexploited potential. As we have seen in the second paragraph, new capture digital devices are reshaping our personal and collective memories and the online platforms constitute new chances to elaborate, preserve and negotiate both individual and collective memory. Exploring the interconnectedness of memory, people and technologies, we found that “Noi, L’Aquila” has helped to save four different types of memory: 1) personal memory; 2) socio-biographical memory; 3) shared memory; and 4) urban collective memory. Furthermore it has a pivotal role also in preserving the individual and collective history of L’Aquila, in collecting the past experiences of its citizens, and in strengthening the local community in the aftermath of the natural disaster. Reading the posts, it seems to travel again through the streets of downtown, to feel again the scents of the various alleys, the fragrance of bread that's barely left the oven, to listen to the joyous screams of children playing in the municipal gardens. But if on the one hand the platform has proved to be an innovative tool for remembering the city of L’Aquila and collecting the emotions and memories of its citizens, from the other hand we have also to

reflect on the quantitative aspect of the posts. The majority of the posts were published on the platform in 2011, just after a strong promotional activity by Google itself. Once the promotional campaign was finished, only few users spontaneously adopted the platform. This phenomenon can be interpreted at least in three different ways:

- 1) given that the memory is the results of an incessant process of selection addressed by the needs of the present, it requires time because is a process of ordering. In the case of L'Aquila, citizens have probably had too little time to systematize their thoughts and their remembrances. "Noi, L'Aquila" was created when the time was not yet ripe and only a small minority of people were ready for storytelling and trauma processing;
- 2) this kind of platform represents an innovation for the Italian landscape and culture and people probably do not yet feel at ease in adopting them. Their use is not a spontaneous act and regards only a small minority, after a strong promotional campaign;
- 3) the platform created by Google reflects a typical top-down approach. It has great potential, but it fails to fully involve the local population. The project has perhaps been perceived by citizens of L'Aquila as something alien, something they did not feel the need for.

Future research will aim to analyse more deeply the "Noi, L'Aquila" platform to explore not only the textual content but also the visual aspects of the project and the photos uploaded by the users. In following years it would also be interesting to conduct a diachronic study to verify if it is possible to identify some differences from the narrative point of view and check if the platform has been enriched with more content or abandoned. Furthermore, we intend to explore other similar platforms to conduct a comparative analysis and understand if it is possible to identify analogous media practices and trace common pathways of individual and collective memory after traumatic events.

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¹ Halbwachs, *Le memoire collective*. Indeed, there are other expressions used to define the collective production of a memory such as “communicative memory” (Assman and Czalicka 1995). It is different from the concept of “common memory”, expression used by Jedlowski to define the construction of memory based on media content and other mediated narratives.

² One example is offered by Wikipedia and some case of studies are proposed in Ferron and Massa (2011; 2012).

³ Indeed, in the sociological debate it is arising also an opposite point of view, according to which the general idea of the Internet as a democratic tool and context is definitely wrong. More specifically, focused the attention on the property of information published and observing the work of the main important search engines, some scholars argue that Google and other online services like that, exercise a dominant power, establishing the logic of visibility on the web or managing the information about the users (Lovink 2011).

⁴ The word is written in this way to mark the double sense of the verb: to have a memory and to confirm the sense of belonging (to be a member) to a community.

⁵ Another important project realized by Google to make critical information around natural disasters and humanitarian crises more accessible is “Google Crisis Response” <http://www.google.org/crisisresponse/response.html>

⁶ “Mirai e no kioku” website: <http://www.miraikioku.com/>

⁷ The September 11 Digital Archive: <http://911digitalarchive.org/> It contains more than 150,000 digital items.

⁸ Hurricane Digital Memory Bank (HDMB): hurricanearchive.org. The project was organized by George Mason University’s Roy Rosenzweig Center for History and New Media and the University of New Orleans, in partnership with the Smithsonian Institution’s National Museum of American History and other partners. The main goal was to use digital media to collect and preserve the stories and digital record of Hurricanes Katrina and Rita. The website has collected over 25,000 items.

⁹ Cimmino, A., “Noi, L’Aquila”: ricostruire il futuro senza dimenticare il passato”, 14 June 2011 <http://googleitalia.blogspot.it/2011/06/noi-laquila-ricostruire-il-futuro-senza.html>