Quality, Honesty and Beauty in Science and Technology Communication

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Book of Papers
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Foreword

The papers in this volume of Proceedings are a sample of the 450-plus presentations made to the 12th International Conference on Public Communication of Science and Technology held in Florence in April 2012.

These papers were received in response to a call to all presenters to submit papers up to three months after the conference. Except where indicated otherwise in the table of contents, these papers were presented either to parallel sessions of individual papers or to pre-arranged panel sessions.

The full programme of the conference remains available at http://www.pcst2012.org/ where you can also find the book of abstracts and a summary presentation of the results of an evaluation of the conference by participants.

We hope you find enlightenment and enjoyment in this record of several stimulating days in Florence.

Massimiano Bucchi and Brian Trench

Co-chairs, Programme Committee, PCST2012
54. 150 years of earthquakes in Italy between memory and oblivion: which communication strategies?

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Communication, Memory and Oblivion

There is no memory without communication, so memory is a problem of communication and who attends to communication should worry about it. At the same time memory is something qualitatively different from communication because memory is subject to biological and cognitive constraints. This makes the memory-communication relationship something complex, an interdisciplinary field difficult to explore and define.

By summarising and simplifying things, we can say that while the roots of memory are in bodies, communication is a process that concerns the social sphere (Bartoletti, 2007). There is no unitary definition of memory because it is dynamic: a process of memory that remodels itself in function of the present, taking into account primarily the reference context and the passage of time. The concept of memory is not absolute; in order be grasped in full, memory needs to be considered in its inseparable connection with oblivion. So when we talk about memory we are actually talking about a continuous process between memory and non-rememberance (Ebbinghaus, 1885). Ebbinghaus, who is considered the father of scientific psychology had already questioned the relationship between memory and oblivion in relation to learning processes.

In absolute agreement with the pioneering studies of Ebbinghaus, communication regarding earthquakes, or other phenomena associated with them such as tsunamis, tends to fall abruptly on the web or on social networks. Japanese researchers have tried to gauge interest in the earthquake and tsunami that struck Japan in March 2011, observing by the count of tweets how this abruptly declined (Isoda and Claster, 2011).

Each memory type has its own oblivion

Individual. Individual memory has been a privileged object of study in psychology. In particular regarding trauma, psychoanalysis has provided a great contribution with its research and definition even at an unconscious level. This form of oblivion is defined by psychoanalysis as repression, in that our consciousness does not permit access to contents deemed undesirable or painful.

Collective and social. According to the definition of the historian Pierre Nora, collective memory is “memory, or set of memories, more or less conscious, of an experience lived or mythologised by a community of living persons, of whose identity the feeling of the past is an integral part”. The term “collective memory” was used for the first time in 1920 by Maurice Halbwachs in opposition to the concept of individual memory. Collective memory is shared, transmitted and also built by the group or society. Collective memory is subject to oblivion
and, according to experts, collective oblivion has a strong influence even at the individual level.

According to Namer, it is possible to distinguish the collective memory of individual groups from the social memory, understood as the intersection or the product of the reciprocal dynamics of the different collective memories in a society, or as the set of traces of the past virtually available. Since collective memory is a selection in each case (more or less voluntary) of the past, his study can be set alongside the one on mechanisms of oblivion production, which occur both in the practice of censorship in the explicit forms of occult manipulation exercised in commemorations and different selections of the past preserved and reproduced institutionally (Yerushalmi, 1990).

The sociologist Alessandro Cavalli talks about the social construction of oblivion. For example, the earthquake in Friuli has brought a cancellation, a removal of the adverse event, and memory has turned to rebuilding and continuity with the pre-disaster past. In the case of the earthquake in Belice, however, there was commemoration, celebration, exaltation of the adverse event.

*Mediated.* This is a form of memory that is built through the mass media. Increasingly we witness earthquakes and disasters that we do not live in directly or in first person, but to which we have access through the mass media. In this case, oblivion is extremely sharp, as we have seen in the examples that relate to the web.

*Transactive.* This covers the most recent studies on memory, and concerns a type of memory that does not refer to human beings as such but to a memory “separated” from the subject using external media technology. This paper refers to new technologies and changes in the mode of storing or forgetting in the Internet age. It is a form of memory that already contains oblivion within itself, because people remember not the contents but only the path to recover them.

**Memory Disasters**

In recent years several studies have been devoted to the study of memory concerning natural disasters. Many studies suggest that it takes three generations after a disaster for a population to stop taking precautions – after the last person who experienced the disaster first-hand has passed away. This makes perfect sense in a culture whose history is transmitted orally, like the ancient Aleutian Islanders of Alaska. Archeological records show that Aleutian villages would relocate repeatedly to higher ground after a tsunami, only to move back to the coast about 100 years later. This is true also for elephants: during droughts, older females lead younger elephants to distant water holes they remember from droughts of their youth.

What are the differences between orally transmitted memory and the memory transmitted today through schools or the media? Some researchers, such as earthquake expert Costas Synolakis, think: “Communal memory of rare disasters is worse in more developed societies because knowledge now is passed on in schools, movies or the internet, leaving no time for oral history or reliance on the elders to learn about the world.” So the memory limit of human beings seems to be that of three generations. Is it possible to overcome it?
Towards a transgenerational memory

In *The Ancestor Syndrome*, Schuzenberger (2004), therapist and analyst with over forty years of experience, provides clinical examples of his psychogenealogic approach to psychotherapy. We are mere links in a chain of generations, and we often have no choice and become victims of events and trauma already experienced by our ancestors. The book contains interesting case studies and examples of “genosociograms” that illustrate how patients have developed seemingly irrational fears, psychological or even physical difficulties by discovering and trying to understand the parallels between their life and that of their ancestors. Is it possible to apply the reconstruction of individual psychotherapy to a level of collective memory and find a way to access information of past generations?

Communication strategies

A precise answer to the above question does not exist yet. Over the centuries humans have developed techniques and procedures to leave a trace of their past. Rites and rituals are a case in which the analogue aspect is predominant, along with the social and interactive ones. The rituals in communication meet two important aspects: the affective and the symbolic ones and appear as a set of signs that, however, do not provide the code that allows you to interpret them fully. They appear on one side as having sense, on the other as having no apparent sense at all. Their limit is all here, because the link between the ritual and the memory of a specific event is largely lost or dismissed in a set of tracks. Even regarding commemorative days of environmental disasters there is a lively debate about their usefulness.

Memory processes and celebration, may, as some scholars believe, be functional to oblivion, that is, to processes of collective removal (Tota, 2001). Another strategy to remember concerns the possibility of the establishment of building identity cards. Many townships of EU countries have for some years been requiring the preparation and periodic testing of the state of efficiency of structures and buildings reported in a separate booklet. This booklet has been designed in relation to numerous disasters due to acts of pure negligence on the part of those granting building permits who, without checking the actual condition of buildings, have authorised resizing works on the structural parts of the buildings or other types of works that have altered their stability.

The idea of writing a book or compiling a record on the history of the building will have a certain effect in terms of safety and will eventually make the work of relevant bodies in issuing clearance more streamlined and quicker. But the issue remains an open one. How should we store the buildings’ ID cards so they may become part of a nation’s cultural heritage and not lie forgotten in an archive somewhere? In a more strictly communicative and informative direction we have tried to develop strategies that could mark the succession of earthquakes in a specific area, using an idea by Carl Sagan. By compressing the time on a time scale of a single year we have represented 1,000 years of earthquakes in Italy from the year 1000 to present. Then on an even smaller time scale, one day, we brought together 150 years of Italian earthquakes.

This work represents only the beginning of a process that should aim to identify effective strategies and methods for transmitting a memory of disasters that can exceed the limit of three generations. Because having memory of a disaster means giving an instrument of knowledge to future generations to help build a more secure area.
References


Ebbinghaus H., Memory: A Contribution to Experimental Psychology, 1885.


