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A Comment on Cubelli and Della Sala

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Playing the Flashbulb Memory Game: A Comment on Cubelli and Della Sala

When Brown and Kulik (1977) coined the term Flashbulb memory (FBM) they probably did not envisage the lively debate that would follow. They defined FBMs as vivid, detailed, and long-lasting memories for the personal circumstances under which the individual first learned of a surprising and consequential event. Subsequent studies have shown that surprise is not a necessary precondition for FBM formation, since FBMs have also been observed for predictable albeit emotional events (Ruiz-Vargas, 1993; Weaver, 1993).

Despite the adoption of a photographic metaphor, in Brown and Kulik's words, "a flashbulb memory is only somewhat indiscriminate and is very far from complete" (p. 75). The same authors reported gaps and inaccuracies in their own memories for the assassination of John F. Kennedy. In fact, the focus of their study was on the phenomenological characteristics of FBMs and emotional factors associated with their formation and maintenance, not on the assessment of FBM accuracy. Yet, in subsequent studies their words have frequently been misinterpreted, and different researchers have been confronted with the topic, striving to confirm or disconfirm the original photographical metaphor.

The first and most influential criticism of the FBM hypothesis came from Neisser (1982; Neisser and Harsch, 1992) who showed striking inaccuracies in FBM recollections, that questioned the role of special encoding factors. If FBMs are subject to distortions and forgetting, then they cannot be considered as special memories, and they share the same fate of ordinary autobiographical formations. Following this, across the years, showing inaccuracies in FBM recollections has become a powerful demonstration that FBMs do not exist – what we term here *the flashbulb memory game*. There are at least two objections against this point: The first is that FBM accuracy is extremely difficult if not impossible to prove; the second is that errors and reconstructions do not exclude that FBMs are formed and maintained, as Brown and Kulik (1977) were at pains to point out.

Private contexts for learning of public events

With respect to the first issue, an objective assessment of the private reception context of important (public) events is at least questionable. In FBM studies, researchers have adopted proxy indices of FBM accuracy, and this is because of the difficulty in assessing the individuals' original experience: Quantity of recalled details, individuals' confidence in their own recollections, and memory consistency over time (Bohannon and Symons, 1992; Curci and Luminet, 2006; Talarico and Rubin, 2003; Neisser and Harsch, 1992). Berntsen and Thomsen (2005) developed a documentary method to assess factual information about participants' involvement in the liberation of Denmark in World War II, and applied it to evaluate the accuracy of individuals' memory for the weather using archival data from various meteorological stations throughout the country. However, this attempt was constrained to details for which objective records are available. More recently, Cubelli and Della Sala (2008) maintained that FBM studies have usually employed leading questions inducing inferential errors in participants' recollections, and proposed to measure FBMs by comparing individuals' recollections with so called "objective facts". The authors ran qualitative analyses on free accounts collected in a booklet issued in 2004 in response to the question: "Where you were on August 2nd, 1980?". This booklet was a commemoration of the victims of a bomb attack to the train station in Bologna, in which 85 people died and over 200 were seriously injured. The editors of the booklet put together free accounts of people willing to provide a testimony of their own experience of the explosion, and a sample of these accounts constituted the material on which Cubelli and Della Sala based their study. The ensuing conclusion was that FBMs do not exist since respondents' recollections were far from being accurate and consistent. Indeed, the evaluation of memory accuracy proposed by the authors was an assessment of plausibility of recollections, and does not rule out the possibility that individuals had fabricated plausible but untrue reports. Furthermore, a mix of details of both the event and reception context was reported in the examples of free narratives analyzed in that study. To illustrate, the authors discussed

the implausibility of a participant's memory for the "smoke coming from the coffee shop", but it is hard to say if this detail referred to the original event or the reception context for that event. In other words, the authors had no way to establish the accuracy of the analyzed recollections. Despite claiming an objective method overcoming the limits of previous FBM research work: in fact, their criticisms are much more applicable to their own investigation.

The role of social determinants in modelling FBMs

With respect to the reconstructive processes affecting FBM formation, again a careful consideration of the original paper by Brown and Kulik (1977) provides useful clarification. In that paper, the authors proposed a suggestive but merely speculative dichotomy between the iconic format of FBMs and the corresponding narrative accounts: While the memory trace was assumed to persist indelible "as the slumbering Rhinegold" (p. 86), a variety of narrative accounts could be generated from that trace, influenced by covert and overt rehearsal processes. This ontological distinction seems to suggest that inaccuracies might ensue from the narrative elaboration of the original memory content, while the trace persist immune to distortion and forgetting. This view has been challenged by decades of studies on autobiographical memory, which have purported to show that modifications and distortions are the regular fate of human memories. To illustrate, autobiographical memories, even if referring to highly relevant experiences, have been demonstrated to differ across the life-span for the same individual. A teenager's memory of the first day at school, highly concerned with the goal of being a good pupil, is fairly different from the memory retrieved by the same individual when 40 years old and other goals have become relevant (Conway and Rubin, 1993). Individuals appear to reconstruct their past in different forms, with respect to the goals they are pursuing in the present, and the process of retrieval develops in conformity with the organization of the working self (Carver and Scheier, 1990; Higgins, 1987). FBMs do not escape from this process. These extraordinarily

vivid memory formations would correspond to a mix of sensory-perceptual and thematic information from the different levels of knowledge involved in autobiographical construction (Conway and Pleydell-Pearce, 2000). It follows that the "live" quality of FBMs does not rule out the possibility that these memories incorporate elements coming from subsequent elaborations of the original learning experience.

The so-called "emotional-integrative model" of formation of FBMs is consistent with the above outlined approach to autobiographical memory (Finkenauer et al., 1998). This model has been validated by different empirical investigations using large-sample cross-sectional and longitudinal as well as experimental designs applied to FBMs for both expected and unexpected events (Curci and Luminet, 2009; Lanciano et al., 2010; Luminet and Curci, 2009), showing that the impact of the encoding factors, i.e. emotion, consequentiality, surprise, needs to be integrated with the rehearsal elaboration of the stimulus event, in order to produce a real FBM. More specifically, the model included among the rehearsal factors the individual's rumination, social sharing, and elaborations induced by the exposure to the mass media as well as social availability of prior knowledge, attitudes, and expectations concerning the protagonists of the original news. The way through which social processes contribute to shape the individual's FBMs is at least twofold. First, people talk and think of an event in different ways, in accordance with shared practices within the group to which they belong. Second, the way in which the event is shared and ruminated will depend on the availability of mass media information from TV broadcastings, radio channels, and newspapers. Again, these reflect the group's habits and shared practices in long-lasting elaborations of the original information (Curci, et al., 2001). The emotional-integrative model provides a reliable account of the process of formation and maintenance of FBMs, in which the FB-like features of these special memories coexist with inaccuracies and distortions typical of autobiographical memory formations.

In addition to these findings concerning the structural patterns of prediction for the phenomenon, recent studies have proposed sophisticated psychometric approaches

which try to model the special characteristics of FBMs. These formations are thus considered not simply as ordinary memories with unusual features of vividness and confidence, but they are modelled as "whole" units or "local minima" in the space of autobiographical memory (Conway, 1995). The measurement model that best accounts for this conceptualization is a categorical model differing from traditional dimensional approaches in that the latent construct underlying a set of observed indicators, i.e the canonical categories of Brown and Kulik, (1977), is categorical in nature (see Curci & Lanciano, 2009; Lanciano & Curci, 2012). It follows that, at least from the psychometric standpoint, the formation of FBMs is profoundly different from the formation of ordinary autobiographical memories.

Searching for FBMs

The main requirement of FBM empirical investigation is to sample memory for those public events which have the potential to elicit a strong emotional reaction in the audience, thus being remembered for a long time. Paralleling the neuro-physiological theory by Livingston (1967), Brown and Kulik (1977) speculated about the biological significance of some public news, triggering a special encoding mechanism called *Now Print!* This conceptualization was reflected in the twofold operationalization of the importance/consequentiality quality attributed to the original stimulus event, through self-report assessments, and participants' group membership (i. e., American Blacks vs. Whites). Er (2003) proposed an importance-driven model of formation of FBMs, which represented an empirical test of the original conceptualization adopted by Brown and Kulik (1977). Many other studies have taken into account the different involvement that different individuals or social groups have towards a given event and its protagonists (Conway, et al., 2004; Kvavilashvili, et al., 2003; Smith, et al., 2003). In sum, to be sure that we are really assessing FBM, individuals whose memory is being tested need to be seriously engaged by the original news event emotionaly, personally, and culturally.

Indeed, there are studies whose authors were claime test the FBM hypothesis, but which confuse the importance/consequentiality attribute of the news event with

pervasive media coverage. In a study published in 2000 about the memory for the O. J. Simpson trial verdict, the authors argue that source distortions indicate an ordinary memory encoding process instead of the operation of a special encoding mechanism (Schmolck, et al., 2000). However, before drawing conclusions on the nature and characteristics of the phenomenon, the authors had to be confident that they really were investigating a FBM. Why should a group of white Southern Californian undergraduate students ever have had an FBM for that event? When the role of personal consequentiality is limited, it is still possible that a stimulus event had a high significance for the social group to which the individual belongs. To illustrate, the death of an important politician or of a popular person would represent a significant concern for a given community (Curci, et al., 2001). In these cases, the effect of social more than personal consequentiality is crucial in ascertaining the formation of a FBM. In the study of Schmolck et al. (2000) this does not even seem to be the case.

To conclude, there is a special category of autobiographical memories which persist over time in a vivid and detailed form, and are associated with a strong feeling of confidence. These memories are formed and maintained following the private experience of upsetting and consequential public or personal events. However, reconstructions and distortions intervene also for these special memories. Ultimately FBMs share the same destiny of ordinary autobiographical memory formations. In fact, in the last decades, different researchers have played a game consisting in presenting evidence either in favour or against the FBM hypothesis. In some cases, studies have focused on memories that can hardily be defined as likely to elicit or cause FBM formation (Schmolck, et al., 2000). In other cases, studies have employed non-standard procedures open to alternative interpretations (Cubelli & Della Sala , 2012) that overlook the principles of internal and construct validity, as well as disregard years of research work on FBMs. The “flashbulb memory game” is one in which the flashbulb memory hypothesis is completely wrong or completely right. Whereas is in reality FBMs are very unusual memories – what items of public news do you recall your

personal circumstances for when learning of them, given the thousands of items of news you have been exposed to? We suggest, very few. Understanding why these memories intersect with our autobiographical memories in the way they do is, or should be, the goal of flashbulb memory research.

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