Complementary Cognitive and Social Perspectives in the Study of False Memory in Reading and Writing

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Abstract
This paper aims to discuss the interdisciplinary nature of memory research, exploring how cognitive and social approaches can be complementary in the study of memory, reading, and writing. We discuss two different phenomena to state our hypothesis: thematic distortions of reading texts and testimonial literature, and writing process about authoritarianism, social violence, and destruction. At the beginning, we introduce reading and memory in cognitive and social perspectives. After that, we explain implicit false memories and social memory. Finally, we suggest that to (re)construct social life it is necessary to compare different individual memories about it taking conclusions through the confrontation of various versions. In this way, remembering what happens is also a social matter, not an individual one, exclusively. To conclude, we propose that strong false memories that affect individual’s reasoning may result in text theme distortions or elaborations of new versions for some social event.

Key Words: false memories, social memory, reading, writing, thematic distortions, testimonial literature.

1. Introduction
Nowadays, researchers from various scientific fields agree that the study of memory is so important for the Humanities (History, Linguistics, and Theory of Literature) as it is for the Neuroscience. However, it has not always been like that. According to Couto (2008), that recognition is a result of the current historical moment. In the linguistic field, a new area emerged in the late 50’s interested on language processing in the brain. Psycholinguistics’ central issues - language and communication - demand a complementary perspective approach due to the variety of aspects involved in the studies, which linked psychology and linguistics (Pinto 2009). Memory is among its main investigation topics as it is concerned to all language processing.

Cognitive Psychology emerged in the same period and it is responsible for most of the memory studies conducted. The researches have been multiplied over the last 25 years, and the individual memory is one of its themes (Teles da Silveira 2007). Someone might ascribe this growth to neuroscience, given its theoretical and methodological advance. However, the growth on memory interest may also have social reasons.

According to Jelin (2012), the current human society is characterized by the tendency to collect. People record and archive everything that is possible. Such trend is not limited to certain areas or specific social groups. All contemporary social life seems to follow this tendency; recording grows and multiplies exponentially with the popularization of internet, the global library, which stores videos, interviews, films, photographs, or written texts, distributing them worldwide immediately. Therefore, human memory has achieved global dimensions.
Writing and printing were the first technologies created to store knowledge and expand the human memory. Nowadays, internet and many other storage devices work as artificial memories, which easily and efficiently mobilize the available knowledge.

This way human memory has achieved global dimensions extending out of the individual’s brain. However, memory is still a recent research field and many questions remain. In this paper, we aim to approach cognitive and social perspectives of memory relating them to reading and writing process. For this reason, we selected a topic that favors an intersection of the two perspectives, false implicit memories in reading and writing.

2. What does memory have to do with reading and writing?

There is no reading and writing without linguistic memory: phonological, orthographical, morphological, syntactic, semantic, and pragmatic knowledge. To read, one needs to look at or touch the text, and, by doing so, different memories of the brain are activated. For seers, the brain mobilization begins through the eyes decoding letters to identify words and to activate their meaning in the mental lexicon, which retains the material to be read and passes on the information to the memory. That is the working memory (Baddeley, Anderson, and Eysenck 2011), which processes the reading activity, and manages it through the episodic retainer (episodic buffer). It interconnects the online reading to the reader’s long-term memory, activating this memory. Such activation enables the reader to integrate the new information (reading text) with the pre-existing information in the brain (encyclopedic knowledge), requiring both working memory, and long-term memory.

Memory of text content is so closely related to comprehension that it is difficult to investigate them separately (Sousa and Hübner 2015). Many reading comprehension assessments rely on memory: summarizing, answering literal questions and paraphrasing. In the production of paraphrases, different kinds of memory are mobilized to produce a report about the reader’s understanding of the text. Hence, memory has everything to do with reading. It is not only important, but also essential because it is directly involved in information storing and processing. Reading and writing are not natural processes as speaking; they are cultural inventions and need to be taught. Writing is even more heavily dependent on memory because it is an intentional production, even when it results directly from paraphrasing a text.

As a result, the search for a dialogue between reading/writing and memory studies begins with the definition of memory as an individual biological capacity: ‘the means by which you access your past experiences in order to use this information in the present; it refers to a process of dynamic mechanisms associated with the retention and retrieval of information’ (Sternberg 2000: 204). This definition gives a rough idea of the importance of memory in daily functioning. Perhaps such importance may be underestimated due to ignorance of the subject – but the fact is that memory is closely related to identity. When memory fails, it causes many difficulties to the person and to his family, as we know by patients with Alzheimer’s disease and aphasia. Thus, the study of the embarrassment and the inconvenience resulting from memory problems is relevant in many situations, and the phenomenon of false memories is an example of the class of errors that will be addressed later in this paper. Moreover, not just science but all society sectors are interested in memory. Jelin (2012) reassures that nowadays people seek an adherence to the moment, the here and now. Even though individuals are aware of their brevity and transience, they would somehow be seeking to hold the present through records (memories). This desire for fixing the fluid, the evanescent, is manifested by a voracious appetite for the exhibition of life’s minimal details and their record in some kind of virtual or printed base. It may be interpreted, according to Jelin, as a form of reaction against transitoriness and rapid endless changes in the world.

In short, the current efforts to explain memory and also to save the marks of living from extinction are scientifically evident in the search for a better understanding of the human way of acquiring, forming, consolidating and retaining information; and more broadly, in social life, it is seen in the attempts to preserve the clues of ‘what happened’. For this purpose, people put their documents together – personal or public – to remember, (re)construct their identity, and at the same time, narrow their ties with groups and communities with which they feel tied or intend to connect emotionally. In this scenario, memory plays the role of a cultural mechanism that strengthens ties between groups and related communities, because ‘the past leaves marks, in ruins and material signs, in ‘mnesic’ marks of the human neurological system, in people’s psychic dynamic, in the symbolic world’ (Jelin 2012: 63). This statement is of utmost relevance to the purpose of this article, as it introduces an aspect that Cognitive Psychology has overlooked in the discussion of memory: its social aspect.
In other words, Jelin (2012) underlines the fact that nobody uses their memory in absolute social isolation conditions. Therefore, in parallel with cognitive studies, memory researches in the social perspective have been developed considering memory as a collective construction. This paper aims to approximate these two approaches discussing individual and social memory through the reconsideration of implicit false memories as well as how they relate to reading and writing.

3. What are false memories? False memories in the cognitive perspective: looking at thematic distortions in reading

Cognitive Psychology has investigated memory as an individual phenomenon that can be classified according to its origin (Alvarenga 2007), duration, and nature (Lent 2004). These researches explain the reading process relating it to: declarative memory, registration and recall of conscious information, expressed in words; procedural memory, skills and associations that are acquired and evoked in the unconscious level; and more recently working memory, executive processor that manages and retains information temporarily. Studies of memory in reading process traditionally involve intently and consciously focused events. However, there is empirical evidence of the existence of memories that were not stored consciously since 1960 (Meyer and Schvaneveldt 1971). These are called implicit memories (nondeclarative) which can refer to information actually recorded in memory - for example, riding a bicycle -, or events that were not stored in fact, but are recognized as if they had been – these are false memories.

Among implicit memories, Damásio (2004) includes the feelings based on lived experiences or even imagined ones. According to Damásio, the feelings allow the recognition and the instant assessment of the environment, preparing the individual to react. In these circumstances, the person feels and then thinks - not the opposite. It happens because the person has implicit memories, which are more instantly activated than others are. Delgado Busnello (2010) classifies implicit memory in four categories:

a) Emotional learning: values and believes;

b) Motor and sensorial abilities: skills as reading, riding a bike, surfing, identifying people’s voice or perfume;

c) Conditioning: behaviors automatically produced, for instance, greeting people, reading a sign, or any written message that is in front of our eyes;

d) Stereotypes: generalized thoughts like ‘dove is the symbol of peace’, ‘teenagers do not like reading’, ‘women are not good drivers’.

Another important implicit memory is the priming effect, it occurs when our answer to a certain task is unconsciously determined by a previous stimulus. For example, people show a faster response time to words that are semantically associated, if the word ‘bread’ is presented in a computer screen in a lexical decision task, even if it is shown too fast to reach the threshold of awareness, one will have a faster response to ‘butter’, that is associated, than to ‘car’ that is not associated.

The human individual encodes, stores and recalls many types of information implicitly. The processing of this information, however, can refer either to the memory of real information (true), or to the remembrance of false information. In the latter case, the so-called implicit false memories are included. According to Delgado Busnello (2010), the difference between false memories and false implicit memories in psychological tests is not related to the memory content, but to the manipulation of attention and awareness. In implicit false memories, one does not have consciousness to be recovering earlier memories. It actually seems to happen when the person distorts the textual theme or writes something unreal but imagined which the focal interest of this study is. The phenomenon of memory falsification began to interest researchers from the early twentieth century. Scientific bases about this phenomenon come from three theoretical models, according to Stein et al. (2010):

a) Constructivist Paradigm: sees memory as a single system, subdivided into two explanatory approaches: the constructivist and the schemes theory;

b) Source Monitoring Theory: prioritizes the judgment of the source of information, or in other words, relates the issue of false memories to the judgment of the difference between the true memory source and other sources;

c) Fuzzy Trace Theory: assumes that memory is made up of two independent systems of information: storage and retrieval.

The Constructivist Paradigm understands memory as a construction. Each new piece of information is understood and reconstructed based on previous experiences. According to the Constructivist Theory, the new information item is integrated with individual’s prior information.
This new memory can distort or override the initial memory, generating a false memory. The Schema Theory explains that false memories derive from the process of understanding new information, which conforms or adjusts new information/data to pre-existing mental schemes, changing it.

According to Bartlett (1932), the act of remembering an event involves a mental movement in time to relive the experience. During this process, the recovered memories – which apparently have strong details – are considered true, although sometimes they are not. The Source Monitoring Theory relates the issue of false memories to the judgment of the difference between the true memory source and other sources. They can be internal (thoughts, images and feelings) or external (other events). For example, someone accuses a boy, who is not guilty, of stealing a store. The person ‘remembers’ to see the boy in the store and judges him by his clothes and appearance.

As for the Fuzzy Trace Theory created by Reyna and Brainerd (1995, 2011), memory is not a unitary system, but it consists of several independent systems with different representations: literal and essence. The information in different systems enables the exchanges between multiple forms of representation. The essence of memory usually stores the significance of the occurred fact. In addition, the literal memory normally contains the memories of specific details. However, it is not always like that. According to the Fuzzy Trace Theory, false memories occur due to changes in the meaning of the experiences (core memory). In the act of remembering, specific and detailed aspects (literal memory) eventually give way to the aspects and the essential representation of more general memories. According to Reyna and Brainerd (1995), it is not correct to say that the false memory totally affects the original memory of the event, eliminating it completely. That seems to be, therefore, the fundamental distinction between Constructivism and the Fuzzy Trace theory. For the Fuzzy Trace theorists the essence remains, not being replaced by the false memory.

To study false memories in the reading classes it is necessary to consider it in both perspectives, cognitive and social. An important issue is why some students conclude that the text topic is different from what is understood by the major group of pupils. In this situation, it seems that they have read different texts. It is too simplistic to say that student ‘Y’ did not pay attention to the text, even because this fact happens repeatedly and people are not always careless. Moreover, not all the memorized information requires focal attention because, as previously explained, there are implicit memories. One possible explanation is that these students distort their reading memories motivated by some type of experience with which they are emotionally related. False memories can be defined as distort memories (Roediger and Mcdermott 1995; Stein and Pergher 2001) because they are memories that go beyond the direct experience, interpretation or inference and may even contradict real lived experiences (Reyna and Lloyd 1997).

Considering the Constructivist Paradigm, we may claim that thematic distortions in reading are motivated by an inadequate activation of the reader’s previous knowledge and experience. When he relates the text content to conflicting or irrelevant previous memories, he may misunderstand the text and attribute more importance and, consequently, more attention to details that do not contribute to the text main topic comprehension. Taking into account The Schema Theory, we may have a similar explanation. The activation of wrong schemas can drive the reader to illusory memories. If he tries to adjust the text information into an inadequate schema, he may generate wrong inferences attributing different meanings from what is indicated in the text. The Fuzzy Trace Theory may be useful to explain student’s difficulty in discerning the main ideas (essence) from the details (literal). While reading, we cannot memorize every word and repeat the text at the end. For that reason, we need to ‘tell’ our brain what information is essential to be stored, and what are the details that can be filled out using our general knowledge. This is also related to activation of previous memories and schemes because if the reader has a very poor knowledge about the text topic, he might consider everything important. Therefore, thematic distortions can originate because of this confusion.

The study of false memories in reading and writing is promising and might result in educational implications. Besides the cognitive theories of false memories, there are important social theories that bring essential contributions to the understanding of this phenomenon. Independently of which theory we may choose to explain false memories, there is one common point to be highlighted: all memories are originated in a social context that influences the recording of all our knowledge and experiences. The readers’ memory activation is directed by his history and place in the society. These memories are used to read or write a text as well as to all interpretation/comprehension processes, when one tries to comprehend his own history and the world. In the next section, we explore individual and social memory in testimonial narratives.
4. False memory in the social perspective: looking at testimonial narratives

When one refers to false memories, he also assumes that there are true memories. This question brings up individual memories, which eventually affect the social group. If there is a false memory, it is because a certain group of people decided that what a person remembers contradicts what the other individuals involved in the same situation can remember. In such cases, it is essential to articulate individual memory and social memory.

The social memory has become a pertinent theoretical question. It’s enough known that Cognitive Psychology, Psycholinguistics and Neuroscience study the individual memory while Philosophy, History, Anthropology, Literary Theory, Linguistics, among other research areas, are primarily interested in issues such as memory and its relationship to themes as identity, reading, violence, discrimination, totalitarian regimes, coups, etc. Regarding the theory of literature, for example, researchers are occupied with social memory, being such a growing phenomenon in contemporary Latin American literature, especially in Brazil, Colombia, Cuba, Peru, and Argentina. These studies establish a complex dialogue between individual memory and social memory, reading and memory, and also between history and memory of the years of political brutality. Ricoeur (1999) points out that, despite the difficulties, collective memory must be discussed, its related reports, and its shared ritualization. In his view, it is indispensable because there is a dialectical relationship between memory and history as well as between truth and loyalty.

Moreover, everything people know, believe, value, etc., results from the operation of the memory. Even individuals’ past remains undetermined until a version is stated, a story to be told and widespread, with which the individual can be identified. In society, says Jelin (2012), the past remains unknown. Its reactivation occurs through reports. Then, after the production of the first version of that past, there are clashes and disputes until an eventual compromise between possible versions, and one of these versions gains prominence to become ‘what really happened’. In short, ‘what happened’ is retold countless times; it is constantly subjected to a redefinition process. 'What happened' has several versions and can be changed by adopting new meanings based on the present state of affairs. This reflection reinforces the idea of constant reworking of memory that occurs as a constant negotiation between individuals’ memory that gain acceptance and reverberate in a group becoming collective.

Stern (2002) proposes to distinguish loose memories, individual memories from, and what he calls emblematic memories. From his standpoint, people have a wide variety of life experiences in general, and in their heads circulate a wide variety of memories more or less, apart from what is happening socially. Such memories, however, are not important to the others, but only to the person. The author then asks the question: how can the connection process between the loose memory and the emblematic memory take place? He answers by saying that people themselves establish links between their memories and collective memories, giving them a greater meaning than to the individual’s ones, because they affect the collectivity.

In Stern’s view, the emblematic memory is not a homogeneous, indivisible block, consisting of one sole content. It is, rather, a kind of landmark, a way to organize more concretely individual memories of people and their meaning, allowing the debate between emblematic memory and its counter-memory. The framework established provides an interpretive meaning and selection criteria for personal memories, as the specific content of the emblematic memory has many nuances, not being identical from one historical moment to another, nor from one person to another (even though they have experienced the same event). The emblematic memory is heterogeneous and goes through various historical stages.

The author also points out that emblematic memories (also called influential memories) are human inventions, though, they are not random inventions. So it is inappropriate to assume that someone can invent them arbitrarily just to manipulate people, although a manipulative individual could try to do so as we know from history. In fact, the process is complex and multifaceted, he says, as memories need to find an echo in society and culture to have an actual impact. As a result, memories are born and consolidated across multiple, conflicting and competitive efforts to give meaning to the experiences of a given group. They are neither random nor arbitrary.

The author also lists some criteria that provide the emergence of emblematic memories:

1. Historicity: an emblematic memory has a greater impact when it reports to a deep social rupture, a deed perceived as historical and fundamental to one or various generations, being the founder of the upcoming events.
2. Authenticity: an emblematic memory convinces more when it relates allusions to real experiences, so that the memories are repeated back by the society.

3. Amplitude: an emblematic memory is more effective when it incorporates many recollections and concrete content, attributing to them a shared sense. These memories’ amplitude and flexibility help to construct the collective imaginary from multiple concrete experiences.

4. Diffusion in public or semi-public spaces: potential collective memories need organized spokespeople to disseminate it in social media, cultural and intellectual spaces as universities and religious groups.

5. Incarnation in a convincing social referent: a concrete and symbolic social referent that incarnates the emblematic memory, making people identifies them with it.

Later, Stern analyzes the collective memories as a historical process. In his perspective, the memory networks knots are the human beings themselves and the social circumstances that require the construction of bridges between personal imagery and loose memories on one hand, and the collective imagination and its emblematic memories on the other. Therefore, it forms an interconnected network. In the social body, the memory knots require thinking and feeling. Thus, the construction of social and cultural history is not fixed or rigid in the time dimension. It actually flows flexible and heterogeneous.

This phenomenon can be observed, for example, in the Peruvian, Colombian, Cuban, and Argentinean narratives. Among others, they have turned to a discussion of the past not as a fact built by an official history, but as a process designed for many voices of subjects who experienced the conflicts. This movement takes place concurrently with the attempt to build an emblematic memory of their dictatorial periods. From official documents, truth and reconciliation commissions attempt to establish justice, trying to appease the remaining trauma and conflicts, giving reasons to families of dead and tortured people. The literature touches this ‘truth’ in its symbolic bias as it brings memories experienced by various subjects, in their various versions. This, perhaps, explains why several contemporary narratives have an investigative characteristic when addressing the violence through the memory of peripheral voices. The narrator’s style - also involved in uncovering what was hidden - is searching through the act of narrating and reading the memories. But what are these memories?

Besides general collective memories are related to important social events of a given community, all human societies operate through their institutions. In fact, the institutions guarantee social cohesion even in oral tradition societies. A child becomes part of the social group through institutional organizations since his/her birth. In the Brazilian context, this child will properly join the Brazilian society when he/she gets a birth certificate; before it, the child’s birth is a restricted fact. If the child was born at home, and the parents did not register the baby, it is as if this child has never existed in the Brazilian society. After the certificate, it is necessary to make the ID card, the voter registration, etc. Finally, everything is governed by institutional regulations in the human social world.

In conclusion, Discourse Analysis integrates individual and social memory in the concept of discursive memory (Orlandi 2004) according to which people’s memories are subjected to social institutions, laws and regulations. The concept of discursive memory contextualizes individuals’ memories, as they involve the person's context: places, time, social group, job, and so on. Therefore, people’s social context, their way of life and their relationship with the social institutions are relevant topics to memory investigation.

5. Final words: Teaching reading, writing and memory studies

The search for an interrelationship between reading and writing studies and memory studies brought up an interesting question to psycholinguists, who investigate reading comprehension. The way students (especially from basic education) interpret some texts shows considerable thematic distortions (Flôres 2008). Literary theorists were also interested in the connection between literature and memory, examining the relationship between narrative modes and literary productions considered as examples of hybrid genres, involving testimonies and statements (Cardoso 2011). It is clear that reading and writing are language skills involving remembering of what has been read or lived.

As a result, the research into implicit memories, especially false memories or memory distortions, dealing with memories of unlived experiences or not faithful to what happened, have led to another angle of investigation, that sees memory as fundamental to clarify certain details of the reading and writing studies. In reading and writing studies, the interrelationship between individual memory and social memory, particularly the phenomenon of false memories, is a relevant issue that demands further investigation. One cannot only affirm that there are limits to the interpretation (Eco 2004, 2005).
It is necessary to analyze what happens and why it happens when enunciators report very different versions of what they have read from the very same text or about what they write, as a testimony, about some social event.

References


