NO TRACE BEYOND THEIR NAME? AFFECTIVE MEMORIES, A FORGOTTEN CONCEPT

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No trace beyond their name? Affective Memories, a forgotten concept

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ABSTRACT

It seems natural to think that emotional experiences associated with a memory of a past event are new and present emotional states triggered by the remembered event. This common conception has nonetheless been challenged at the beginning of the 20th century by intellectuals who considered that emotions can be encoded and retrieved, and that emotional aspects linked to memories of the personal past need not necessarily be new emotional responses caused by the act of recollection. They called these specific kinds of memories "affective memories" and defended their existence. My aim here is to expound both the historical background of this debate, as well as the characterization and development of the notion of affective memory since its first inception. I aim to show that although the debate was left unresolved and the term disappeared from the academic landscape around 1930, many of the characterizations of the nature of emotions and memory advanced by the advocates of affective memory have implicitly reappeared in the scientific agenda and been further developed during the last decades.

Keywords: affective memory; emotional memory; episodic memory; emotion; history of psychology.

Aucune trace au-delà de leur nom ? Les souvenirs affectifs, un concept oublié

ABSTRACT

Il est naturel de penser que les expériences émotionnelles associées au souvenir d'un événement passé sont des états émotionnels nouveaux et présents déclenchés par l'événement dont on se souvient. Cette conception commune a néanmoins été remise en question au début du XX[e] siècle par des intellectuels qui considéraient que les émotions peuvent être encodées et récupérées, et que les aspects émotionnels liés aux souvenirs du passé personnel

n'étaient pas toujours de nouvelles réponses émotionnelles provoquées par l'acte de souvenir. Ils ont appelé « souvenirs affectifs » ce type spécifique de souvenirs et ont défendu leur existence. Dans cet article, je présente le contexte historique de ce débat, ainsi que la caractérisation et le développement que la notion de mémoire affective a subi depuis sa création. Le but est de montrer que, bien que le débat n'ait pas été résolu et que le terme ait disparu de la recherche académique vers 1930, de nombreuses caractérisations de la nature des émotions et de la mémoire avancées par les défenseurs de la mémoire affective ont implicitement réapparu et été développées dans l'agenda scientifique des dernières décennies.
Mots-clés: mémoire affective ; mémoire émotionnelle ; mémoire épisodique ; émotion ; histoire de la psychologie.

> How much less concrete, how much more transient, must not be our affective responses, blurred also or effaced by their own incompatibilities, pleasure cancelling pain, sadness wiping out elation? Affective responses which, in proportion to their domination while present, last so brief a time compared with the too, too solid world of "perceived things" outside us; feelings, emotions, moods so unclutchable and evanescent that, in the opinion of many persons, they can leave no trace beyond their name.
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> Vernon Lee, *Music and its Lovers* (1932), p. 186-187

THE THESIS OF THE TRANSPARENCY OF MEMORY WITH RESPECT TO EMOTION

It seems quite natural to think that emotional experiences associated with a memory of a past event is not a part of what is remembered but a new and present affective state triggered by the remembered event. This conception derives from the belief that emotion and cognition are two different types of processes that interact but do not overlap, and are thus separable (Kensinger, 2009). But there is another assumption that also underlies this intuitive conception: emotions are always experienced as new and present experiences because they defy a certain representational

register. As the Swiss psychologist and neurologist Edouard Claparède wrote, "If anxiety is felt in the region of the heart, if discomfort is there, if the concern is perpetual, if the back shivers, if the arteries leap, if palpitations repeat…is that an emotion is present and not therefore a representation of a past emotion" (1911, p. 363).[1]

According to this view, emotions cannot be represented in a representational format that is itself affective, because affective states cannot themselves represent (i.e., stand for) other affective states. The reason: if we try to represent an emotion through an affective representational vehicle, the representation of the past emotion and the feeling of the new emotion come to the same thing. Mirroring Claparède, the English physician Havelock Ellis explained this idea in a short review of the notion of affective memory: "when there are actual physical feelings of emotion we cannot be concerned with the mere representation of an emotion; we have its actual presence" (Ellis, 1911, p. 237). Although emotions can certainly be represented through non-affective representational vehicles, such as language, emotions cannot be represented through other affective states.

A comparison with perception can clarify this conception. After having a visual experience of an event, we can remember the event through a proposition, but we can also remember the event through a visual image. In this latter case, the visual image is a memory representation that, without being itself an occurrent visual experience, retains some of its properties. Perceptual experiences can thus be represented through perceptual representational vehicles. According to the advocates of the common conception of the relationship between memory and emotion, there is no such analogue of a visual image in the emotional domain. They certainly admit that we can remember an emotional experience through language but consider that we cannot remember it in a different representational format that would be intrinsically affective or emotional. Although an emotion related to a memory of an event may be similar to the past emotion felt when that event took place, we would just experience a present and new emotional experience and not a representation of a past emotion.

Currie and Ravenscroft (2002) have described this particular characteristic of emotions when talking about imagination by introducing the notion of transparency of imagination with respect to emotions. According to their view, imagination would be transparent to emotions because

[1] All translations from French to English are the author's.

emotions are states that have no counterpart in imagination: if I am amused by some aspect of what I imagine, my amusement is not part of the imaginative project but is a new and occurrent emotion that I experience caused by what I imagine. But their notion of transparency with respect to emotions does not only apply to imagination but also to memory. The transparency of memory with respect to emotions would explain the intuitive conception about the relationship between memory and emotion: emotions do not have a counterpart in memory, so affective states related to past events can only be new emotional responses produced by the memory of those events.[2]

This common conception—which is still implicitly assumed by some researchers in cognitive science—has its origins in the writings of William James. Nonetheless, it was already criticized by some of his French contemporaries, who envisioned a different and more complex relationship between memory and emotions. These intellectuals considered that emotions can be encoded and retrieved, and so that emotional aspects linked to memories of the personal past need not necessarily be new emotional responses caused by an act of recollection of a past event. According to them, some of these affective aspects can have a representative nature and are thus part of the memory itself. They called this specific kind of memories "affective memories", and defended their existence.

My aim here is to expound the historical background of this debate as well as the characterization and development of the notion of affective memory since its first inception. As I show, although the debate was finally left unresolved and the term disappeared from the academy around 1930, many of the characterizations of the nature of emotions and memory advanced by the advocates of affective memory have reappeared in the scientific agenda and been further developed during the last decades.

For this purpose, I proceed as follows. In the first part, I examine historical claims in favour of the transparency of memory with respect to emotions since the original formulation made by William James. I explain the concept of affective memory as it was first developed by Théodule Ribot in order to endorse the existence of a specific way to remember emotions, and explore its characterization as developed by other authors of that period, especially its comparison with intellectual memory (declarative memory, in current psychological terms[3]) and new emotional

[2] See Mulligan (1997) for the same remark concerning memories of pain.

[3] The authors of this period used the adjective "intellectual" and "cognitive" indistinctly, as the opposite of "affective". It is true that declarative memory is in general conceived in opposition to procedural (or nondeclarative) memory since this distinction was first proposed by the philosopher Ryle in 1949 (see Roediger III,

states. I then analyse in detail the arguments given by Edouard Claparède to criticize the existence of affective memories. Because this debate remained unresolved and the notion of affective memory disappeared from academic discussion after 1930, I subsequently present some significative uses of this term in the literature until recent times. In the second part, I establish some connections between this rich characterization of the notion of affective memory and current empirical and theoretical research on emotions and memory. As I show, many of the ideas suggested by the advocates of affective memory have resurfaced in the last decades and often became quite mainstream in contemporary research. I divide this presentation according to the topic, and successively focus on the encoding and retrieval processes that characterize affective memories; the nature of emotions; the phenomenal differences and similarities between affective memories and emotions, and between affective memories and intellectual memories.

GENESIS OF THE THESIS OF THE TRANSPARENCY OF MEMORY WITH RESPECT TO EMOTION

It is the American psychologist and philosopher William James (1842-1910) who first explicitly defended the idea that emotions cannot be remembered as emotions but can only be caused by a memory. According to James (1890), the idea of memory of emotions makes no sense, because we can only remember the past event that caused a past emotion, and the memory of this past event can make us experience a similar emotion in the present, but this emotion is a new and occurrent emotion, and not a memory. In James's terms, it is not possible to revive an idea of an emotion, but it is possible to revive a real emotion prompted by an ideal object: "we can produce, not remembrances of the old grief or rapture, but new griefs and raptures, by summoning up a lively thought of their exciting cause" (James, 1890, p. 474). James considers the object of an emotion as its cause. So in cases when the object is not physically present,

Zaromb, & Lin, 2017 for a brief review of the origin and use of memory terms). But as a memory whose essential feature is to be able to be verbally expressed, declarative memory is also in opposition to emotional or affective memory. One example is the distinction between the declarative memory of an emotion and the implicit memory of an emotion (see section 3 in the main article). In any case, the opposition between declarative memory and affective memory does no more than reproduce the traditional (but also questioned) antagonism between cognition and emotion.

like a past event, "the cause is now only an idea, but this idea produces the same organic irradiations, or almost the same, which were produced by its original, so that the emotion is again a reality" (James, 1890, p. 474).

Similar ideas can be found in Danish philosopher Harald Höffding (1891). For Höffding, either we remember the fact that we had an emotion, or we remember an emotion only through the ideas with which it was connected. But this remembered emotion would not be different from the experience of a new emotion. Therefore, emotions cannot be properly remembered, neither can moods which animated us in the past.

The British psychologist Edward B. Titchener (1895) defended this same conceptualization, adding two interesting ideas (see Gardiner, 1895, for a review). First, it is impossible to voluntarily or spontaneously recall a past emotion: when this kind of affective recall purports to have taken place, it has in fact been produced by the 'ideational substrate' of the affective state, that is, by the declarative memory of the past event or circumstances that elicited the past emotion. In voluntary cases of remembering, ideas (such as memories of past events) are in general present in consciousness, whereas in spontaneous cases they are not consciously represented but they are the cause of what seems a revival of an emotion: "I pass a building where I was flogged as a boy. Although I am not thinking either of the building or the flogging, an accidental glance at the former recalls all the circumstances of the latter; and I feel a tremor of fear. That is, my associative mechanism has 'suggested' to me a train of ideas similar to that which constituted my intellectual consciousness on that fatal day; […] and the dominant train fuses with its unpleasant toning, etc., to make up the emotion" (Titchener, 1895, p. 73). Therefore, I feel a tremor of fear because of the nature of the ideas themselves, which in this case are unpleasant, and not because I am reviving an emotional state. Secondly, Titchener states that although an emotion could be reproduced, it could not be recognized as a memory because there would be no phenomenological difference between an emotion that is reproduced or represented and a new emotion that is presented for the first time (also Spencer, 1890). Furthermore, a past and a present emotion would be characterised by "the sameness of the ideational substrate": both of them would have been produced by the same representation, i.e. the representation of the past event. Therefore, Titchener concludes that in both cases the ontological status of the emotion is the same.

James Baldwin, an American psychologist and philosopher who criticized this conception, summarized it in the following terms: the advocates of "the older and still very current view of memory and representation […] deny that emotion or feeling as such can be revived. They hold on

the contrary that the feeling that seems to be remembered is always a new feeling dependent upon the awakening of a cognitive image; this image stirs up anew the feeling which attended the original object. The feeling, therefore, is always a new function in some sense; it is only the memory image that is revived. The feeling cannot be reinstated except as the cognitive image is there to excite it" (Baldwin, 1909, pp. 290-291).

In fact, there are two main arguments given by the above-mentioned authors, one more connected with the nature of memory, the other exclusively based on the nature and phenomenology of emotions.

The first one, mentioned by all of them, refers to the fact that all affective states related to episodes of remembrance can only be new emotional responses triggered by the declarative memory of a past event. This argument relies on the assumption that emotions cannot be stored, so only the retrieval of a declarative memory of a past event can be at the origin of an affective state related to the past. In a certain way, it shows the limitations of our memory system: we can encode and retrieve external events, and some internal events such as beliefs, but not emotions. As Titchener explains, the declarative memory that is the necessary cause of the emotional state need not to be consciously remembered by the subject: it can be unconsciously retrieved. The important point is that memory traces of a past event are always reactivated when the subject experiences an affective state related to that past experience. And what is more, these memory traces are necessarily the emotion's cause.

The second argument, based on the nature and phenomenology of emotional and affective states, considers that emotions and affective states cannot represent other mental states. This means that they cannot stand for past emotions. As Höffding and Titchener explain, although an affective state could be the reactivation of a past emotion, it could not be recognized by the subject as a memory, because it can only be experienced as a present and new emotional state, but not as a representation of something from the past. This argument presupposes that emotions are simply physiological changes. Because physiological changes by themselves cannot present any mark of the past, they cannot represent a past experience and be experienced as a memory: as soon as my heart races, my muscles tense, my palms sweat, I am undergoing an emotional state, as Claparède proposed.

To sum up, these two arguments lead to the conclusion that "there may be cognitive processes, i.e., the knowledge that one experienced joy or sorrow, etc., or there may be renewed affective processes" but there is no such a thing as "affective memory images", as Wohlgemuth (1936) pointed out. In current terminology, this means that according to the

thesis of the transparency of memory with respect to emotions, there can be a declarative memory of a past emotional event or past emotion, and there can be a present emotional experience triggered by this declarative memory, but there cannot be a mental state such as a proper emotional or affective memory.

THE NOTION OF AFFECTIVE MEMORY: ITS FIRST APPEARANCE

In general terms, the notion of "affective memory" ("mémoire affective" in the original French) refers to a kind of affective state that at the same time qualifies as a memory, that is, to the mental phenomenon whose existence has been denied by the advocates of the transparency of memory with respect to emotions. It was introduced by French psychologist Théodule-Armand Ribot (1839-1916), in his article "Recherches sur la mémoire affective" (1894), which was published in the journal he had founded in 1876: *Revue philosophique de la France et l'étranger*[4]. In fact, this journal, which contributed to the foundation of modern psychology in France, was the centre of a series of publications on affective memory that followed one another until around 1910.

Ribot (1894) introduced this term by means of a distinction between two kinds of affective memory: the concrete or real affective memory and the abstract and false affective memory. The false affective memory consists of "a representation of an event and an affective mark –but not an affective state" (Ribot, 1896, p.160). The "affective mark" is not a feeling but a state of knowledge, a fact that goes with the representation of the event. That is, an abstract and false affective memory is a simple declarative memory of an event and an emotion. On the other hand, a real affective memory refers to the reproduction or revivability of a past affective state. A real affective memory, as any other memory, has the

[4] According to Ribot, only Spencer, Bain, James, Fouillée, Hoffding and Lehmann have discussed this subject before. In fact, the article where the notion of affective memory first appeared was subsequently reproduced as a chapter in a book (which I cite for quotations) that Ribot wrote two years later: *La psychologie des sentiments* (1896). This book was translated into English in 1897 and published by Walter Scott Publishing Co. under the name of *The psychology of emotions* instead of *The psychology of feelings*, which would be a more accurate translation. There is another problem with this English version: the term "affective memory" appears only twice. In fact, the translator seems to have preferred the term "emotional memory" to translate the French "mémoire affective", but Ribot never actually used the term "mémoire émotionnelle".

characteristic of being an occurrent representation: "every memory has to be a reversion through which, because the past becomes present, we live presently in the past" (Ribot, 1896, p. 170). But besides being an occurrent representation, an affective memory also presents physiological changes, and thus it is felt as an occurrent emotional state. So according to Ribot, an affective memory is a present emotion that is also experienced as a memory because of some secondary marks, such as repetition and less intensity, which make of it a representation of a past emotion. Affective memories simultaneously present some of the characteristics of memories and some of the characteristics of emotional states. This view questions the second argument proposed by the detractors of the affective memory: according to Ribot, affective states *can* represent other affective states, so they need not be exclusively experienced as a present and new emotional state.

To the question about what is the cause of this affective memory, Ribot answers that affective memories are characterized by an "indirect revivability", because they are in general provoked indirectly, through the revival of the memory of the circumstances associated with them. In this sense, Ribot's idea is not so different from the argument proposed to criticize the existence of affective memory: an affective state related to the past can only be the consequence of the retrieval of a declarative memory of the past event associated with it. But despite this similarity, he comes to the opposite conclusion: these affective states are affective memories.

What is more, in a footnote absent from his 1984 article but added to the end of the same work produced as a chapter of his 1986 book, Ribot introduces a different and more interesting idea. There, he explains that it is impossible to conceive of an example of an affective memory without any ideal component or, in current terms, a cognitive component, because the revivability of an emotion "necessarily brings about the intellectual component that is part of the complex and its support" (Ribot, 1896, p. 170). In this note, Ribot suggests first that the revived version of a past emotion cannot be equated with a simple physiological change, because a real affective memory is in fact inseparable from the cognitive components, without for that reason being merely cognitive. And second, that the cognitive or intellectual component can come after the affective one and, thus, the former does not necessarily need to be the cause of the latter. This idea points to an interrelation between the intellectual memory of the event and the affective memory, but also to a certain independence between them.

To sum up, with the introduction of the notion of affective memory, Ribot challenged the two main arguments given by the advocates of the

transparency of memory with respect to emotions. First, he affirmed that affective states can represent other affective states, even if they are "felt". This means that affective states can have a representational nature without thereby losing the experiential character that is proper to every affective state. Second, although in the main text he stated that intellectual memory is needed to revive past affections, in the footnote he proposed a different—and more innovative—position: intellectual memories are not necessary to recall affective states. This suggests that an affective memory can be not only retrieved but also stored independently of the declarative memory of the event associated with it.

THE CONCEPT OF AFFECTIVE MEMORY: ITS DEVELOPMENT

After Ribot, there were other French intellectuals (philosophers and psychologists) who continued defending and developing the notion of affective memory. Among these authors, there were some philosophers less known nowadays, such as Marcel Mauxion (?), Frédéric Paulhan (1856-1931), Ludovic Dugas (1857-1942), Lucien Arreat (1841-1922) and Louis Weber (1866-1949), as well as other academics more frequently remembered, such as François Pillon (1830-1914), a philosopher who was the dedicatee of James' Principles of Psychology, Paul Sollier (1861-1933), a neurologist and psychologist known for being Proust's doctor, and James Baldwin (1861-1934), an American psychologist and philosopher who studied with Wundt, translated some of Ribot's work to English, and greatly influenced Piaget's work. All of them developed the two ideas first sketched by Ribot (as Ribot himself also did): the relation, similarities and differences on one hand, between intellectual memory and affective memory; and on the other hand, between a memory of an emotion and an occurrent emotion. It is important to highlight that their writing style is very literary but not at all argumentative. Like Ribot, they provide a phenomenological description of the phenomenon in question, i.e. affective memory, but they do not give elaborated arguments in favour of its existence.

Intellectual memory and affective memory

Concerning the relation between intellectual memory and affective memory, almost all the authors who wrote after Ribot's first article considered that intellectual (in the sense of "declarative", "cognitive": see footnote 3) as well as emotional components are not exclusive; both are always present in memories, though in different degrees. In fact, in some cases it is the affective element which is better conserved and remembered with more clarity than the intellectual element. The reason finally invoked for explaining this double aspect of memories is that both of them, emotional and intellectual aspects, are not opposite but part of a continuum, and thus are always present in every psychological state.

Unlike the first ideas delineated by Ribot, Pillon (1901) proposes to distinguish not between two kinds of affective memory, true or false, but between different degrees of affective memory or abstraction. Affective memories are a continuum: the intellectual memory can dominate and so the affective memory only exists in potentiality, but it can actualize itself due to associations of contiguity. But affective memories have to keep their distinctiveness as past representations and for this they cannot be completely separated from the intellectual element: affective memories have to be localized in time and that is why they need to be related to some idea. If they are completely detached and lack this intellectual element, they are no longer recognized as memories; they would be simply considered as new emotional responses. Paulhan (1902) is of the same opinion: every memory has intellectual and affective elements in different proportions, but sometimes memories cannot evoke their affective side. More intellectual memories have a distinctive past mark, because they are vividly and directly denied as occurrent perceptions by actual perceptions, whereas more affective memories are not completely inhibited by their antagonists, that is, by occurrent emotions. In the case of the emotions, Paulhan (1903) considers that it is their internal organization that determines if it is an affective memory or not. Therefore, the relation between occurrent emotion and memory of an emotion cannot be analogous to the relation between perception and memory of perception: this is also shown by the fact that it would be an error to accept a visual memory as an occurrent perception, but it is possible to accept memories of emotions as occurrent emotions. Dugas (1904) also considers that intellectual and affective memories are theoretically distinguishable because while the former memories present a clear difference between present and past, the latter ones are better characterized as a resurrection. In fact, they have a

"hallucinatory" character that intellectual memories lack: they make us feel as if we were in the past. But even if they are distinguishable, they never appear in a pure state: "in the restored sensation, like in the original sensation, the affection is given in and with the representation" (p. 639). The same conception is held by Sollier (1913): the question as to whether the affective memory can or cannot be isolated is not relevant for the question of its existence because it is incompatible with the formation of an affective state, which is always indissolubly tied to the representational element. All memories are more or less intellectual, more or less affective and, if in general we do not recognize the affective element, it is because the affective element is not as necessary as other elements in the reconstitution of a past mental state or because of its weak intensity, which on the other hand proves useful so as not to saturate our thoughts with an intensity similar to the occurrent impressions.

Sometimes, it is the affective signification retrieved that arouses the associated sensory image which can be even more blurred and less defined than the affective state (Arreat, 1919). To illustrate this point, Dugas (1909), in an article about his childhood affective memories, explains that from the moment his dying mother talked to him about her imminent death he only retained the indescribable feeling of sadness he felt to the idea of becoming an orphan. It is the memory of this feeling, devoid of images and representations, that he remembers each time he evokes that moment, and it is only from the memory of this feeling that he is able to minimally reconstruct and organize some schematic and abstract images of that moment, including the face and voice of his mother.

As I described before, the explanation of this double aspect present in every memory, the intellectual and the emotional, is given by the fact that every mental state, every representation of an object, has at the same time intellectual and emotional components, although in different degrees. For Arreat (1919) all sensory impressions come with an affective state that is also conserved in memory and jointly retrieved as a sort of "colour" of the original impression. Even Mauxion (1901), for whom a true affective memory would have to be in a certain way independient of ideal elements, assumes that feelings are not the opposite of sensations and representations but an extension of them: "the feeling is somehow an extension of the sensation: the rhythm of the sensation, regardless of the pleasure or pain that it causes immediately, naturally tends to inform the general activity and change more or less the tone; and it is precisely this what the Germans call the tone of feeling (*der Gefühlston*) of sensation" (Mauxion, 1901, p. 144). In the same spirit, Baldwin (1909) distinguishes between two aspects in any apprehension of an object: the content in the strict

sense, which is cognitive and is generally conceived as representational images; and the formal organization, which corresponds to a variety of fuzzy and indeterminate connotations that are attached to the content and that are conceived as an edge, a shadowy light, a tendency. This tendency is not cognitive, it is not a representative image, but it is conceived as the formal elements of sentimental states and has the characteristic of being a presentation and a representation at the same time.

In conclusion, this varied and rich description made after Ribot's first writing suggests a novel idea: memories of our personal past always present intellectual and affective components (except for Pillon, 1901 who reduces the cognitive aspect of affective memories to a temporal marker). This is based on a more general conceptualization about the nature of emotion and cognition: the affective and the intellectual components are not conceived as opposite but as part of a continuum. Nonetheless, the consequences of this novel idea are in a certain way ambiguous. On one side, it could imply that the affectivity present in some degree in every memory of the personal past is the reason for their particular phenomenological characteristics. On the other side, it could also imply that this particular phenomenology is only present in those memories whose affective component is dominant over the intellectual, and thus, that these memories—the only ones that truly deserve to be called "affective memories"—would be a special kind of memories of our personal past. I will come back to the analysis of these two possibilities later in the last section.

Revived emotion and occurrent emotion

For Mauxion (1901), the true affective memory and a new occurrent emotion are normally combined in an emotional memory experience. In most cases, the affective memory presents itself during the beginning and then a new emotion, different from the past emotion, is felt. As Pillon (1901) answers to the detractors of the notion of affective memory, these new emotions presuppose and are the result of the affective memory, so they cannot be used to argue against the existence of it. For him, even if the occurrent emotion can, to a certain degree, conflict or mix with the affective memory, and both of them can increase the vivacity of the other, the occurrent emotion does not modify the affective memory: they coexist and remain independent. According to Ribot (1907), the affective memory can appear in a weak form, and in this case it would be more an outline of feelings even if it can be categorized as a specific type of

emotion (fear, happiness, etc.). But it also can appear in its live form, and thus the affective memory becomes hallucinatory and it is felt as a real emotion, although not as a virgin impression because it has the mark of the repetition and thus is recognized as a memory.

Sollier (1913) also considers that even if the subject relives the past emotions and feelings with all the sensitive representations, organic sensations, gestures and attitudes that he had felt, and it seems to him to be in the circumstances and in the time when that past event took place, he knows that he is in a different time, i.e. the present time, and so he recognizes his emotional experience as a past already felt. One way of conceiving this recognition is to compare the two affective states: when a person discerns a contrast between the renewed emotion and the present feelings, a mismatch with his occurrent emotions and ideas, she can be quite sure that she is having a memory experience. This criterion that could be called "oddness with the present self" is broadly accepted between the advocates of affective memory. It also appears in Dugas (1909): when there is a continuation of a same feeling, there is no affective memory, because affective memories must cut off and interrupt the person's current affective life.

Paulhan (1902) also follows this same line of thought, although he starts his reasoning from a different perspective: instead of focusing on the opposition between affective memory and occurrent emotion, he proposes to focus on the distinction between a narrow conception of memory experience and experiences that are the result of mental organization and systematization. This distinction is based on the compatibility and incompatibility with the present self. Affective memories correspond to emotions we do not feel anymore, that have disappeared or changed, that is, they correspond to emotions that belong to a self that is not the present one, and so are independent and maybe even contrary to our occurrent tendencies: "remembering one thing is […] to place it as foreign to the present self and make it appear before him" (Paulhan, 1902, p. 560). So the past emotion is recreated not through our present self but through our past self who is in a certain way resuscitated for some instants. On the other hand, the emotions that arise from our mental organization and that express our current self, which are part of our system of tendencies, ideas, and desires, are not memories in a strict sense even though they depend on and are based on them. They are not the product of the reproduction of a trace, but of a modification of the mind that has been unconsciously absorbed by our mental life and influences our way of thinking and feeling. This distinction is not unique to the emotions: in the case of beliefs, some of them will appear as present beliefs that are

still held today, whereas others that had been rejected or for a long time forgotten will appear as memories of beliefs. Concerning the emotions, Paulhan mentions some examples that clarify the distinction: "If thinking of a person who is dear to me, I feel affection, I will not see there a case of memory, the waking of a previous emotion, but only the natural reaction of my mind in the presence of the idea of this person. And on the contrary, in the case of Littré, feeling excited in his old age, at the very distant memory of the death of a young sister that he had lost in his childhood and whose death no longer excited any emotion in him, we see rather a case of the awakening of a feeling, a case of affective memory, precisely because the feeling experienced, long gone, was no longer considered as a part of the organization of the self" (Paulhan, 1902, p. 558). Paulhan (1903) considers that some affective memories can incorporate both perspectives: the perspective of the past self, when, for example, the memory is adapted to the tendencies of the past self that still remain, and in this sense the memory is pleasant; and the perspective of the present self, when the memory is not adapted to the ideas and desires predominant in the present self, and so the memory is also felt as unpleasant.

Ribot (1907) also distinguishes affective memories from emotions that have some memory traits, like reproduction and conservation, but lack others, like recognition and determination in time, and so are considered as an acquired disposition or habit. Weber's (1914) proposal is similar, but he focuses not on emotions tied to a particular event but on general states of distress or pleasure, which are not objectively expressible and do not have any immediate influence on behaviour. In these cases, what is relived is an inner world of feelings and sensations, a past affective disposition, a colouration of our consciousness, what he calls a past cenesthesia.[5] This relived past self comes suddenly in contact with the present self and for a short time the subject identifies himself with this past way of being. But the recognition of the past self as a self that has disappeared a long time ago also happens immediately, rendering the subject back to his present time, when foreign and incompatible elements with this past self dominate. For Weber, these subconscious cenesthetic memories guarantee the continuity and the feeling of duration of the self: "Intellectual memory, to which we wrongly grant paramount importance, would only play a secondary role in the formation, development and conservation of

[5] 'Cenesthesia' is defined as "the general sense of bodily existence (and especially the general feeling of well-being or malaise) presumably dependent on multiple stimuli coming from various parts of the body, including sensations of internal organ activity even though these are not necessarily on a conscious level" (Campbell, 1989).

psychic personality. With the intellectual memory alone, man would only be a conscious automaton, wonderfully flexible: thanks to the affective memory, it is also a sensibility aware of himself" (Weber, 1914, p. 811).

To sum up, there are three new ideas introduced by this detailed phenomenological description of affective memory. The first idea points to the continuous stream of thoughts that characterizes our conscious mind (Pillon, 1901; Mauxion, 1901; Paulhan, 1903). When we remember our personal past, there is quite often a flow between the past and the present, between the way we felt in the past and the way we feel now about that past. This is reflected in the idea that our affective memories often awaken new emotions, and thus, that affective memories and new emotional experiences come in general together. On the other hand, these authors also consider that affective memories come in different degrees: whereas some affective memories present only a weak feeling, others have a hallucinatory power and make the rememberer relive the past (Ribot, 1907; Weber, 1914). Nonetheless, in both cases the rememberer recognizes them as memories because of their contrast or oddness with the way the rememberer currently feels about the past (Paulhan, 1902; Dugas, 1909; Sollier, 1913; Weber, 1914). Finally, some authors make a difference between (a) affective memories that are tied to a specific past emotional event; (b) affective memories that are related to the revival of general sensations of distress and pleasure that cannot be located at a precise moment in the past (Weber's notion of cenesthesia, 1914); (c) emotional dispositions and habits that organize and systematize past emotions and are thus at the origin of current emotional experiences (Pillon, 1901; Paulhan, 1902; Ribot, 1907). This last case is considered neither as an affective memory nor as a memory state, but as a current emotional experience produced by memory schemas.

In conclusion, it is possible to summarize the most important ideas proposed by the advocates of affective memory in the following terms:

– Affective states can have a representational nature, and thus stand for past affective states and situations;

– Memories always present an intellectual and an affective component, although in different degrees. This is based on the idea that cognition and emotion are not different in kind. It remains nonetheless unclear if affective memories are those memories whose affective component is predominant, or if all memories of our past are "affective" in some degree;

– Affective memories and new emotional experiences towards the past come often together, but it is possible to recognize the mnemonic affective component through the criterion of oddness with the present self;

– Affective memory is not a unitary phenomenon. Some affective memories only present a feeling, so the difference between the past self and the present self is kept during the recollection. But other affective memories erase this temporal difference for an instant and become hallucinatory. Some affective memories are tied to a past emotional event, whereas others refer to general past sensations that do not have a specific reference in the past.

– Some affective memories become organized in dispositions or habits and lack determination in time. When they do so, they lose their status of remembrances and become current emotional experiences. That is why many of our emotional experiences are the result of memory structures.

CLAPARÈDE'S CRITICISM OF AFFECTIVE MEMORY

Despite the rich phenomenological descriptions of affective memories, it was not unanimously accepted in the intellectual environment of the beginning of the 20th century, especially in the Anglophone academic world. Titchener was one of its detractors, and some reviewers of Ribot's and Paulhan's work (but not all) were suspicious about its existence (such as Pierce, 1905; Urban, 1904). Nonetheless, the strongest critic of the existence of an "affective memory" was the Swiss psychologist and neurologist Edouard Claparède (1873-1940). In 1911, in an article entitled *La question de la "mémoire" affective*, Claparède maintains that "it is impossible to feel an emotion as a past emotion. Affective state and projection into the past are two incompatible facts" (Claparède, 1911, p. 367), hence arguing against the notion of affective memory.

This article is particularly interesting because of the clarity of its argumentation. Claparède notices that criteria generally used to distinguish a memory state from other mental states do not allow the classification of affective states as memories. He takes into consideration the following criteria: (i) localization of the affective state as in the past; (ii) oddness with the present self; (iii) conservation of memory traces; (iv) revivability without an external stimulus; and (v) reproduction by association.

The impossibility of localizing an affective state in the past (i) had already been pointed out by the other thinkers. If I try to remember a past affective state, either I have an occurrent affective experience produced by the memory of the past situation, or I represent my past affective state through memories that are not at all affective: "I know that I was sad, but

I am not conscious of any sad state". If I try to translate these memories in affective terms "I fall back in an affective present state, that is, it is my present self who is sad, and not only my past self" (Claparède, 1911, p. 367). What is novel in this argument, is the way in which Claparède reformulates it. Because he uses the notions of past self and present self and makes an analogy with the way in which we can visually represent the self in imagination, he introduces the idea that memories can have different emotional perspectives.

When I try to represent a past emotion, Claparède explains, two things can happen: either I project the past memory far from the present moment and thus my present self, and so I represent myself in it from an external perspective, in the same way I represent other individuals, and thus I become a simple spectator of my past self, who is empty and objective, a sort of ghost self; or I try to become the actor and identify myself with this past image of myself, and so I draw in this past self in order to reincarnate it and reenact the past scene. Only in this last case, that is when the present self reincarnates the past self, can I feel an emotion; but it is my present self who feels it. When I try to represent the past emotion as an attribution of my past self, because this past self is so distant from my present and true self, I can only form a representation devoid of affectivity: "we cannot be spectators of our own feelings: we feel them or we do not feel them; we cannot imagine them without thereby disrobing them from their affective essence" (Claparède, 1911, p. 369).

Moreover, another possible criterion that could establish that an affective state is a memory state: the strangeness or oddness with the present self (ii), is also considered by Claparède as useless for the recognition of affective memories as well as of memory states in general. According to him, the fact that an impression or affective state contrasts with the state of my present self does not make it a memory state. The example given by Claparède to justify his claim is nonetheless unpersuasive: if I see a funeral procession while feeling happy, my perception is not thereby a memory.

The criterion of conservation of memory traces (iii) is also not sufficient to conclude that the affective state is an affective memory. Claparède notes that conservation is not the same as representation: even if the new affective state is produced by some traces left by the old affective state, and so there is some conservation of the affective state felt in the past, this does not mean that the new affective state represents that past affective state.

Similar arguments are invoked by Claparède to rule out the criteria of revivability and association. According to Claparède, the revivability of a state independently of an external stimulus (iv) could only mean that the state relived is not caused by the excitation of the object that this state represents. So in the case of an affective state like fear, its revivability would imply that the mnesic state of fear is not caused by what fear represents: acceleration of the breathing rate and heart rate, sweating, muscle tension, etc. Claparède takes for granted the theory of emotions in vogue in those days, the James-Lange theory of emotions: emotions are the awareness of physiological modifications that follow certain perceptions like a reflex, so emotions represent these physiological changes (see James 1884). Because in the case of affective states their excitatory cause is an organic modification and is thus always present, affective states are always occurrent and thus cannot be relived. The fact that these physiological processes that have been related to an image can be reproduced by association (v) when invoking the image, does not imply an affective revivification either. There would be only an organic revivification, and this organic revivification is not the emotion itself, which refers to the consciousness of these physiological modifications, but just the cause of it.

From this analysis, Claparède concludes that although he has not demonstrated that affective memory does not exist, he has proved that the criteria used to assert its existence are not at all conclusive. And he is in a certain way correct: whereas the advocates of the notion of affective memory did not prove its existence, neither did Claparède prove its non-existence. Concerning the criterion (i), i.e. the localization of the affective state in the past, Claparède only proves that it is possible to conceive the relationship between emotion and memory from a different conceptual framework that denies the phenomenon of affective memory. The criticism of the oddness with the present self (ii), the most important criterion invoked to distinguish a new emotion from an affective memory, is not well grounded. So it does not really show that this criterion is not valid, although it does call into question the possibility of having an affective memory that corresponds perfectly to one's present emotional state. Arguments given against the conservation of memory traces (iii) and the association with an intellectual memory (v) do in fact show that the reactivation of memory traces of a past emotion neither means that the new state represents that past emotion nor that this reactivation is an affective state. This leads us to the core assumption that lies behind Claparède's criticism (and that is partially stated to criticize the criterion iv): affective and emotional states are the consciousness of physiological changes and thus, these states can only represent the physiological changes that caused

them. This conception corresponds to the James-Lange theory of emotions: "bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion […] we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike, or tremble, because we are sorry, angry, or fearful" (James, 1884, p. 189). Therefore, Claparède's line of argument is not to prove that affective memory does not exist, but to show that the adoption of the conception of emotion that was in vogue in his time necessarily implies the non-existence of affective memories.

Because Claparède is aware of what he has accomplished with his criticism, he finishes his article with a very lucid remark about two possible ways in which the existence of affective memory could be demonstrated. First, by proving that James-Lange theory of emotions is false; secondly, by proving that affective states that are memories have some particularities that present affective states lack: either the physiological modifications follow the awareness of the affective state, or the affective state is devoid of physiological changes. As I explained above, there is a little of these two ideas in the defense of the existence of affective memory.

THE EVANESCENCE OF "AFFECTIVE MEMORY"

After 1910, only very few articles were published on affective memory in different French journals, until its final disappearance from academic debate around 1930. In fact, there is no evidence of any response to the most acute criticism this notion received: the one made by Claparède in 1911. The unresolved nature of this debate was noticed by Dugas in one of the last articles about affective memory written in 1935: "the question about affective memory still remains open. Some asseverate while some others deny its existence […] It is to believe that we do not agree on its nature" (p. 15).

Notwithstanding the short period of time of this discussion, the idea of affective memory overflowed from the academic journals into literature: for example, Proust's masterpiece *À la recherche du temps perdu*, (1913-1927)[6]; and *La mémoire du coeur* (1907), written by one of Ribot's correspondents (see Alden, 1943). It also inspired a few empirical studies,

[6] For Sollier's work on memory and his relationship with Marcel Proust, see Bogousslavsky & Walusinski (2009).

such as the work of the American psychologist Kate Gordon (1878-1963) on the recollection of pleasant and unpleasant odours (Gordon, 1925). But most importantly, it played a significant role in the conception of the method of acting developed by the Russian theatre practitioner Konstantin Stanislavski (1863-1938).[7]

In the academic literature, the notion of "affective memory" continued to be mentioned to a lesser extent between 1920 and 1980, and much more often after 1980.[8] The term appears in empirical studies in cognitive psychology and neuroscience, in psychoanalytic theory, in drama studies, in literature studies, and in cultural studies. Nonetheless, it is used in very vague sense, without being defined or discussed. Within the field of cognitive psychology and neuroscience, it is sometimes invoked to refer to memories of pleasant and unpleasant objects (Bradley et al., 1992), and at other times to refer to memories that produce an emotional response (Zola-Morgan & Squire, 1993; Foa & Kozak, 1986). In fact, it is easy to find examples where the term "affective memory" is presented as a synonym of "emotional memory" (Ochsner, Schacter, & Edwards, 1997; Perry, 1999; for the notion of "emotional memory", see the next section). Sometimes the notion of "affective memory" is almost exclusively employed in the title of the article (Horder et al., 2009), or in the abstract (Rosenkranz & Johnston, 2007). The idea of "affective memory bias" also appears in some articles as a synonym of "mood congruency" (Bruce, Polet, & Arnett, 2007; Michalak, Rohde & Troje, 2015).

[7] The method of acting developed by the Russian theatre practitioner Konstantin Stanislavski (1863-1938) was very influential in Russia and the United States. The notion that appears in the English translation of his writings is "emotion memory", but he explicitly credited this idea to Ribot (Stanislavski, 1936, p. 180), and it is well documented by secondary sources that Stanislavski had read Ribot's work (Bentley, 1962). According to Stanislavski, in order to evoke a feeling in a play, an actor must search in his memory for an analogous moment in his own life and recreate the emotions he previously felt. While Stanislavski recognizes that affective memories are in general less vivid than the original experience, he suggests—in a text not exempt of ambiguity—that the actor must herself relive the feeling in order to transfer it to the stage. He also states that feelings drawn from affective memory can be controlled by the actor and help him to influence her inspiration, whereas spontaneous and unexpected feelings are dangerous because the actor has no control over them. This idea was later interpreted in a different way by Yevgeny Vakhtangov (1883-1922), a theatre director who was Stanislavski's pupil, and the theatre practitioner Lee Strasberg (1901-1982), for whom the revival of an emotion is considered as a "remembered emotion, not literal emotion": "the basic idea of affective memory is not emotional recall but that the actor's emotion on the stage should never be really real. It always should be only remembered emotion" (Strasberg & Schechner, 1964, p.132). Whereas an occurrent emotion, product of a memory or not, is out of the actor's control, a remembered emotion is a state that the actor can create and repeat, and thus regulate. In this sense, Vakhtangov and Strasberg's notion of affective memory is very close to the conceptualization made by the advocates of the existence of affective memory.

[8] A verified research in Google Scholar (knowing the limitations that this kind of research presents) gave the following results of quotes of the term "affective memory": 7 (1890-1900); 22 (1901-1920); 13 (1921-1940); 30 (1941-1960); ≈110 (1961-1980); ≈ 700 (1981-2000); ≈ 3000 (2001-). The French term "mémoire affective" is quoted to a lesser extent (maybe this is due to the existence of less digitized documents than in English speaking countries): 18 (1890-1900); ≈90 (1901-1920); ≈25 (1921-1940); ≈25 (1941-1960); ≈60 (1961-1980); ≈2000 (1981-2000); ≈800 (2001-).

Nonetheless, there were two exceptions to this indiscriminate use of this term: the work of two women, the English novelist and essayist on aesthetics Vernon Lee (1856-1935), and the American psychologist Magda Arnold (1903-2002).

In her book *Music and its lovers*, Lee consecrated a chapter to the notion of affective memory in order to study the role that memory plays in the emotional responses to music. Lee did not really introduce a new characterization of the notion of affective memory, but she conceptualized it in a more analytical and precise way than many of her predecessors. First, as is outlined in the epigraph of this article, she explained that one reason that may lead one to believe that affective states "can leave no trace beyond their name", is the nature of these states themselves in contraposition to the nature of "things". Whereas things belong to the material and objective world and are independent of ourselves, feelings are vaguer, fainter, and sometimes contradictory, so they are more difficult to grasp and perceive. From there arises the belief that these fluctuant and subjective states and processes can only be remembered through an intellectual memory. Second, Lee explicitly mentioned that affect leaves traces, that is, "memory-images in our mind, which could be revived like all other mnemic traces" (Lee 1932, p. 180), and this reinforces the idea that affect leaves traces "beyond their name", that is, beyond the emotional label and the description of the event associated with it. Third, she distinguishes between the affective memory that remains personal, because it is the memory of an emotion felt in a specific moment of the past, and the affective memory that becomes abstract and impersonal. This last one refers to emotional schemas, or "affective schematas" (as she calls them), which are formed from traces of several emotional episodes of the same kind,[9] and which present some similarities with (but are not identical to) Weber's (1914) notion of cenesthesia and Paulhan's idea (1902) of emotional dispositions or habits. Finally, she introduces, with quite fine-grade details, a distinction between "reliving" and "knowing". Affective memory refers to the revival of a past feeling, to the capacity of living over again the emotions of our past life. So, Lee suggests that affective memories present a kind of hallucinatory form in Ribot's terms: they are felt as real emotional experiences. Lee calls them "*passé vivant*", in opposition to the "*passé mort*" that characterizes the "historical recollection of having had such feelings on a remembered occasion". This "*passé*

[9] According to Lee, abstract affective memories or affective schemata accomplish important functions from individual and social perspectives: they help individuals to avoid pain and search for pleasure, and also allow them to feel empathy for others (which Lee presents as an essential aspect for social life).

mort" can be of two kinds: knowing "in a historical way" the kind of emotional experience I once had and its characteristics, and "historically" recollecting the "circumstances and places connected with the past emotion without feeling the emotion itself" (p.175-176), that is, "all concrete *whos*, *wheres* and *whens*" (p. 187). Therefore, Lee clearly distinguishes the affective memory, which implies reliving a past emotion, from the declarative memory of the emotion itself and one concerning the description of the past event which gave rise to the past emotion.

On the other hand, Arnold also explicitly used the notion of "affective memory", and integrated it into her theory of emotions. She defined "affective memory" as a revival of an earlier appraisal: "affective memory, in short, preserves the intuitive appraisal and reactivates it in similar situations. Since this reactivation is the revival of an earlier unconscious appraisal, it is itself unconscious, but arouses anew the same emotion that followed the original appraisal" (Arnold, 1973, p. 157). It seems thus that, for Arnold, affective memory is an occurrent emotion associated with the unconscious recall of the way in which some past event affected us. In this sense, Arnold's use of this term is more compatible with the detractors of the notion of affective memory than with their advocates: although affective memories represent the reliving of past appraisals previously encoded in our mind, they are experienced as current emotional states. Nevertheless, Arnold gives an important role to affective memories in our mental life: if we have positive or negative feelings about an object or action, it is because in fact we relive past appraisals that are related to past situations that are similar to the present one. In Arnold's theory, "affective memory determines the emotional attitudes towards any situation that can be encountered" (Springer, 1988). Hence, Arnold emphasizes and develops the idea defended by Paulhan (1902; but also by Pillon, 1901; Ribot, 1907) and suggested by Lee (1932) that our emotions are the result of the mental organization and systematization of past emotions. In fact, for Arnold all our emotions are in a certain way affective memories because emotions always involve memory structures. Importantly, this implies that emotions can be conceived neither as a mere mechanical linkage between stimuli and responses, nor as consciousness of changes in bodily states, as was proposed by the James-Lange theory of emotions.

THE LEGACY OF THE NOTION OF AFFECTIVE MEMORY

The term "affective memory" was not an explicit part of the agenda of the science of memory that flourished in the last decades. It was neither an explicit part of the research agenda on the relationship between emotion and memory that grew exponentially since the mid 1980's (Uttl, Ohta, & Siegenthaler, 2006; Kensinger, 2009) and was mostly focused on the notion of emotional memory. Whereas at first sight emotional memory can be considered as a synonym of affective memory (in fact, a few authors have used these terms interchangeably, such as Ochsner et al., 1997; Perry, 1999), they refer to different concepts, at least if we consider their common use in the literature. In general terms, affective memory differs from both intellectual (declarative) memory and present emotional experiences, whereas emotional memory has been mainly used to refer to declarative memory of emotional stimuli or events, that is, of stimuli or events that have induced an emotion in the past, when they occurred (such as flashbulb memories); and to a lesser extent, to the declarative memory of the emotion itself, that is, of our past assessment of, and past reactions to, the emotional stimulus or event (Reisberg & Hertel, 2004). Indeed, much empirical research on emotional memories has been mainly focused on the way in which past negative and positive emotions felt during a past event influence the properties of declarative memories of that past emotional event, such as their vividness, ratings of confidence about the event, their accessibility, their accuracy, their preservation over time, and the type of information they encode: central versus peripheral (for a review, see Holland & Kensinger, 2010). This notion of emotional memories can be considered at the most as a false affective memory (Ribot, 1896), as a simple historical recollection (*passé mort*) of a past emotional experience or past emotion (Lee, 1938), but not as a real and true case of affective memory.

Nevertheless, there is some empirical research on emotions and memory that differ from research focused on the declarative conception of emotional memories. For instance, the term emotional memory has been also used to refer to a form of non-declarative memory, such as fear-conditioning (Buchanan & Adolphs, 2004). The study of this different form of emotional memory, together with other models and theorizations produced in the last decades, have, in a certain way, kept alive and developed some of the characterizations attributed to the notion of

"affective memory". In this section I establish some connections between affective memory and current research on emotion and memory. My aim here is to show that although the term "affective memory" disappeared from the cognitive science agenda, some of the characterizations attributed to the concept of "affective memory", that is, to the psychological phenomenon described with this term, survived in different ways and were further studied and developed in contemporary research.

For this purpose, I divide this presentation according to different topics: encoding and retrieval processes of affective memories (presented in two subsections: one before and another after consideration of the nature of emotions); the nature of emotions; the phenomenology of affective memories vs. emotions; the phenomenology of affective memories vs. intellectual memories.

Encoding and retrieval processes of affective memories I

Ribot's (1894) original distinction (also found in Lee, 1932) between false affective memories (i.e. declarative memories of the emotional event or of the emotion itself) and true or real affective memories (i.e. revival of a past emotion) became, some decades ago, a quite accepted empirical distinction applicable to memories of negative emotions and experiences, such as fear conditioning and traumatic events. Neuropsychological research has explicitly advocated a dissociation between the declarative memory of the emotion or the emotional event and the implicit (unconscious and non-declarative) memory of the emotion (Christianson & Safer, 1995; Brewin, Dalgleish, & Joseph, 1996; Tobias, Kihlstrom, & Schacter, 1992; LeDoux, 1993, 1996, 2012; Phelps, 2004), based on the dissociation between the hippocampus and the amygdala (Zola-Morgan et al., 1991; Bechara et al, 1995; LeDoux, 1993, 1996; Armony et al. 1995; LaBar & Cabeza, 2006). Whereas the hippocampus and associated areas would encode contextual information of events (information about the *what*, *where* and *when*: Tulving, 1983), the amygdala would store emotional information of events (LeDoux, 1993), more specifically emotionally arousing information (Kensinger & Corkin, 2003). That is why it is commonly believed that the hippocampus is the basis of the declarative memory system and the amygdala of the emotional memory system.

Additionally, some theoretical models of memory also suppose a dissociation between declarative memory and emotional memory, such as Bower's (1981) associative network model and the dual representation

theory of post-traumatic stress disorder (Brewin et al., 1996, Brewin, 2001). Dual representation theory considers that personally experienced traumatic events are stored in two different systems or representational formats: a propositional format that interacts with the rest of autobiographical knowledge, refers to spatio-temporal information and can be retrieved automatically or through strategic processes; and a non-verbal format that contains information that has been obtained from lower level perceptual processing of the traumatic scene, such as visuospatial and auditory imagery, and of the person's bodily response to it, such as changes in heart rate, temperature changes and pain (Brewin, 2001). Whereas the first kind of representations would be associated with the hippocampus, the second kind would be associated with the amygdala.

Although these theories, models and empirical research stress the independence of these two systems, they also state their interaction. And this interaction explains how the reactivation of the implicit emotional memory in the amygdala can sometimes bring about the declarative and conscious memory of the past emotional episode and vice versa (LeDoux, 1996).

The possibility of encoding emotional information of an event that can be independently retrieved from its contextual information certainly challenges one of the main arguments of the transparency of memory with respect to emotions. Because some emotional information can be stored in a kind of "emotional" format, past directed affective and emotional states are not always caused by the retrieval of the declarative memory of the corresponding event.

Nonetheless, this dissociation presents some important limitations. First, it applies to a single kind of emotion: fear, and more specifically, to a simple kind of fear understood as a defence response, as a detection and response to external threats, and not for example, as fear of falling in love, or of being left alone, which are more complex cognitive emotions. LeDoux himself recognizes that much more research needs to be done before assigning the amygdala as the emotion system (LeDoux, 2007). Secondly, in the last number of years, more studies of patients with bilateral amygdala damage have been carried out in order to better understand the role of the amygdala in relation to emotions. These studies have shown that people with bilateral amygdala damage or loss can in fact recognize and feel not only a variety of emotions, but also fear (see Freeman & Luby, 2013; Feinstein et al., 2011, 2013, 2016, specially for patient S.M.), suggesting that emotional memories for arousing interoceptive events, such as pain and internally induced states of fear, can be encoded, consolidated, and retrieved without the amygdala. This new

evidence shows, first, that the effect of amygdala impairment may be specific to the emotion of fear related to exteroceptive events (events processed through visual and auditory channels) and the memory of this fear, but does not affect other emotions or their memories; and second, that the amygdala is not the only mechanism that instantiates the emotion of fear and its memory, because in fact other pathways can mediate its induction, experience and remembrance (Anderson & Phelps, 2002, p. 717).

Nonetheless, the ambiguous evidence regarding the amygdala as the locus of encoded emotional information does not really undermine the existence of affective memory. First, affective states can represent past emotions without being the product of the reactivation of a specific affective memory trace that would be encoded by a specialized brain area. Second, emotions can be stored in a specialized brain area without thereby, when retrieved, being experienced as affective memories: they can simply be experienced as new and present emotional states, such as Claparède (1911) suggested. Claparède's argument was, in a sense, grounded in a particular conceptualization of the nature of emotions: emotions are awareness of physiological modifications, so emotions can solely represent these physiological changes. Nonetheless, this conception of emotions has been also challenged in the last decades by more complex conceptualizations of their nature.

The nature of emotion

For the advocates of affective memory, affectivity is not the opposite of sensations and representations but part of a continuum in the apprehension of an object.[10] That is why affective as well as intellectual (in the sense of cognitive) components are always present–even if in different degrees–in every psychological state, including memories and emotions. For the same reason, an emotion is indissolubly tied to the intellectual component and thus is not a simple bodily change. Affectivity is given within and with the representation (present and past), and that is why it has the property of being a presentation and a representation at the same time.

[10] Although Ribot professedly adopted James-Lange theory of emotions in his work, some of his reviewers have stated that this theory "is not adhered to very rigorously, and sometimes, indeed, seems directly contradicted" (Stanley, 1896).

This conceptualization of the nature of our mental states, including emotions and emotional memories, present many similarities with contemporary research in the field. The idea of a specialized brain system exclusively focused on the elaboration and expression of any kind of emotion, such as the limbic system, was already criticized at the end of the last century by many researchers who were sceptical of the explanatory power and adequacy of such a concept (Brodal, 1981; Swanson, 1983; LeDoux, 1991; Kotter & Meyer, 1992[11]). More recently, researchers have demonstrated that cognition and emotion are not two separate, independent and categorically different systems, mainly because they overlap widely at the brain level (Pessoa, 2008, 2015; Hamann, 2012; Lindquist et al., 2012; Okon-Singer et al., 2015, Anderson, 2016): "It is simply not possible to identify regions of the brain devoted exclusively to affect or exclusively to cognition. This fact should dispel claims about their independence and help to foster a more nuanced appreciation of the ways in which affect and cognition interact" (Davidson, Sherer, & Goldsmith, 2003, p. 5). The idea that cognition and emotion do not really map into compartmentalized brain circuits has entailed a theoretical shift from functional localization approaches of emotions (the search for the brain's emotional center or for a one-to-one correspondence between emotions and brain regions) to divergent lines of thinking. Many researchers have refocused the conceptualization of emotions as representations embedded in large-scale brain networks that span cortical and subcortical regions (Hamann, 2012; Krager & LaBar, 2016).

On the other hand, hybrid conceptualizations of emotions have become quite widespread at the theoretical level of analysis (Moors et al. 2013, Fox, 2018). Hybrid theories do not identify emotions with a single particular component, such as a physiological change (as in the James-Lange theory) or a disembodied judgment (appraisal theory), but with dynamic processes that involve multiple and heterogeneous components, some of which have been traditionally categorized as "cognitive", like appraisals and categorization processes (see Scherer 2001, 2005; Russell & Barrett, 1999; Russell, 2009, Barrett 2017; Lambie & Marcel, 2002).

Moreover, quite recent theoretical models of emotion have explicitly integrated memory structures in their explanation of emotional processes in the spirit of Paulhan's (1902) and Arnold's (1973) innovative ideas about the important role that past emotions play in the experience of present ones. The memory structures introduced in these models do not

[11] For a historical review of the notion of the limbic system, see Roxo et al. (2011).

only refer to general semantic information or knowledge about emotions. They also refer to (a) specific schemas of emotional response constituted by similar emotional events experienced by the individual during his personal history, such as in Leventhal's hierarchical processing model (1984), and Teasdale and Barnard's integrated cognitive subsystems (1993; for a review, see Philippot & Schaeffer, 2001); (b) specific autobiographical memories, such as the memory of getting bitten by a dog (in Philippot & Schaeffer's model of emotional memory, 2001); (c) and even memories of the emotional significance of a stimulus gained through testimony, such as the memory of my neighbour telling me that his dog is dangerous and may bite me (Phelps, 2004). Also, Damasio (1994) has distinguished between a primary emotion system that is biologically determined and a secondary emotion system that depends on representations shaped during ontogenesis through the storage in memory of associations between events and their emotional responses. In fact, Alexander & O'Hara (2009) have proposed a dynamic model to account for the ontogenesis of emotions and emotional memories. Their model explains how physiological, individual and social factors interact during all levels of processing emotional experiences to predict emotional memory, and how at the same time these memories provide feedback in forms such as implicit memory, schemas, and autobiographical memories, which may then predict future emotional reactions and subsequent emotional mnemonic processing.

In conclusion, all these models suggest that leaving aside automatic emotional responses like fear of some exteroceptive events, most of our emotion experiences involve not only different kinds of memories but also, and more importantly, different kinds of representations of complex associations between personal memories, abstract knowledge and somatic states.

Encoding and retrieval processes of affective memories II

The complex nature of emotions renders the encoding and retrieval of emotions and emotional memories complex too: emotional memories do not seem to result from the activation of a specific type of information stored in a specialized emotional memory system, such as the amygdala. Emotional memory is best conceived as a multilevel or multisystem structure that involves many elements, such as schemas that are shaped and transformed across the lifespan (Philippot & Schaefer, 2001; Alexander & O'Hara, 2009).

Nonetheless, the amygdala does seem to play an important role at all stages of emotional memory processing (encoding, consolidation and retrieval) in a direct and indirect way, such as through the modulation of the activity of other brain regions involved in memory (Hamann, 2001; Kensinger, 2009). Some researchers have explicitly highlighted the relevant role played by the amygdala in supporting the binding of the event and the correlated emotional information or its affective significance. This has led to reformulations of the conceptualization of episodic memory that have explicitly integrated emotional information as a constitutive part of episodic memory, echoing the advocates of affective memory and their idea that memories of our personal past present intellectual and affective components. For example, Yonelinas & Ritchey (2015) have expanded the standard medial temporal lobe model, which is focused on the binding of item and contextual information formed by the hippocampus, in order to incorporate item-emotion bindings operated by the amygdala, thus accounting for the formation and retrieval of emotional memories (also Ritchey et al., 2019; Yonelinas et al., 2019). Allen, Kaut, & Lord (2008) have also proposed that emotional information is directly indexed as part of the contextual setting associated with a given event, and that is why it serves as a contextual marker to facilitate the retrieval of the memory of that event. As suggested by Dolan et al. (2000), the role of the amygdala during memory retrieval may be to automatically index a retrieved event with its past affective significance.

The integration of emotional information as a constitutive part of episodic memory has been also carried out in psychological models of episodic and autobiographical memory. Rubin's multimodal and multisystem model of episodic memory (2006) considers that episodic memories are always formed by the mutual coordination of different independent systems, including the emotion system (although the idea of an emotion system is questionable, as I have previously shown). Conway's account of episodic memories (2009) also proposes that the most basic unit of representation of experience is the episodic element (EE), which corresponds to a fragmentary and summary representation of experience that is the result of a sensory-perceptual-conceptual-affective processing of external stimuli. So, affect would be part of the summary representation of experience that is central to the construction of every episodic memory.

Even LeDoux, who made a clear distinction between the declarative episodic memory and the proper emotional memory that is experienced as an occurrent emotion (1996), acknowledged that in some cases the affective component can become an intrinsic part of a personal memory.

According to his proposal, when a declarative memory of an emotional past event is co-represented in working memory with the emotional arousal that is caused by the activation of the implicit emotional memory in the amygdala, the two components are seamlessly fused as a unified conscious experience for the subject. This unified experience of the past memory and the arousal can be encoded as a new long-term memory and later recalled as a memory with an intrinsic emotional colouration without leading to a new emotional state. In fact, similar terms to "emotional colouration" have been used by Markowitsch and his colleagues in order to explain the special phenomenological properties that are characteristic of episodic personal memories and that more semantic personal memories and fictitious memories lack. "Affective flavor", "emotional flavor", "emotionally colored episodes", "emotional infiltration", "emotional connotation" and "emotional tone" are the terms indistinctly employed in their articles (Markowitsch et al., 2000, 2003; Brand et al., 2009; Reinhold & Markowitsch, 2009; Markowitsch, 2010). This "emotional colorization of memories" makes our memories unique and personal, and seems to be supported by limbic and paralimbic structures, such as the septal nuclei and the medial and anterior thalamic nuclei (Markowitsch, 2013, p. 2).[12]

To summarize, all these models and theories highlight the idea that many of the affective and emotional experiences related to personal memories cannot be conceived as simple consequences of an act of remembering, such as the advocates of the transparency of memory with respect to emotions believed, because they are in fact an intrinsic part of the experience of remembering itself. By virtue of this inherence, the affective aspect of a memory experience can have a representative nature, like every other aspect of a memory, and thus stand for a past emotional or affective state.

The phenomenology of affective memories vs. emotions

There are no extant empirical studies that explicitly compare the phenomenology of emotions and emotional memories, but a recent study on fictional reappraisal (Makowski & al., 2019) found that negative stimuli presented as fictional, compared with real, were subjectively appraised as

[12] The idea that memories can present an emotional tone without eliciting an occurrent emotion is also present in quite recent philosophical literature: Wollheim (1984); Goldie (2012).

less intense and less negative, and elicited lower skin conductance responses and stronger heart-rate deceleration, among other differences. Although memories and fictional simulations are clearly not identical phenomena, they do rely on many of the same cognitive and neural processes (for a recent review, see Schacter et al., 2012), and this suggests that the intensity of the feeling may be also an important factor to distinguish current emotional experiences from affective memories. As Bechara & Damasio (2005) explain, remembering or imagining a situation, such as the loss of a large sum of money, re-activates the pattern of a somatic state belonging to a prior similar experience, but generates a "fainter" somatic state than one triggered by an actual similar experience of money loss.

In fact, the diversity of emotional intensity of our memories constitutes an assumption made in questionnaires about the phenomenal characteristics of autobiographical memories, where rememberers are asked to determine the emotional intensity of autobiographical memories (among other traits) using a five or seven-point Likert-type scale (Johnson et al., 1988; Sutin & Robins, 2007; Boyacioglu & Akfirat, 2015). The affectivity of our memories does not seem to be an all-or-nothing phenomenon, but comes in different degrees, such as the advocates of affective memory had emphasized (specially Ribot, 1907). If at one extreme of the spectrum there are memories whose emotional intensity is very low or non-existent, which only present a slight emotional colouration or emotional flavour; at the other extreme there are those memories that entail or present themselves as current emotional experiences.

Traumatic memories related to post-traumatic stress disorder (PTSD) are the perfect example of past emotions that are reexperienced and reenacted in an act of recollection. PTSD is characterized by a strong sense of reliving that is reflected in a distortion of the sense of time: the traumatic event seems to be happening in the present rather than belonging to the past, as normally happens for ordinary memories (Brewin & Holmes, 2003). In fact, individuals suffering from PTSD not only report that their flashback images seem real but also sometimes respond as if the traumatic event is happening again, by exhibiting signs of terror, autonomic symptoms, like sweating, and even invoking some behaviour, such as ducking as if to avoid a blow (Holmes & Mathews, 2010). Some PTSD theories consider that the imagery that characterizes PTSD may be responsible for the emotional re-experience. This is not only because of its direct links with the amygdala but also because it may still convey a sense of immediate perceptual experience that makes the individual momentarily process it as real and as a genuine threat (Brewin & Holmes, 2003;

Holmes & Matthews, 2010). This relation between intrusive memory imagery and reexperience has also been explored as a characteristic of depression and grief. Nonetheless, traumatic memories associated with PTSD are not the only kind of memories which are still emotionally "open" to the rememberer (Beike, Kleinknecht, & Wirth-Beaumont, 2004). There are more common memories that are stressful for the rememberer and can also be reenacted, or can even entail a completely new emotional experience which differs from the past one, such as when we feel shame for something that we originally experienced as funny. The important point is that in all these cases the emotional aspect of memories refers to a present emotional reaction, and not to a simple emotional tone.

Among the advocates of affective memory there is no agreement whether the reexperience of a past emotion is a case of affective memory or an emotional experience. But there is another main theoretical criterion to distinguish between an affective memory and a new emotional response that is generally invoked: the oddness with the present self. Whereas the notion of "oddness" can be considered as an infelicitous expression—the affective aspect does not need to be strange or weird for me in order to be a memory and not a new emotional response: I only need to feel neutral about the past event—, the reference to the involvement of the present self who remembers is certainly useful to define a better phenomenal criterion. This use of the notion of "self' brings to mind conceptualizations of emotions in terms of appraisals, and maybe this is why Arnold (1973) saw a compatibility between her conceptualization of emotions and the concept of affective memory. According to appraisal theories of emotions, the essence of emotions is not centered on feelings of internal changes of the body (as in pain) but on their relationality. The relational nature of emotions means that emotions are about person-environment relationships that involve how one's concerns or one's self are affected in terms of harms and benefits by some stimuli (Arnold, 1960; Lazarus, 1988, 1991).

The relational nature of emotions can help to outline a neater criterion with which to conceptually distinguish affective memories and memories intertwined with an emotional experience. If we reserve the term "emotional memory" to the latter case, emotional memories could be defined as memories that present an environment-subject relation in terms of harms and benefits, where the "environment" refers to a past event personally experienced and the "subject" refers to the rememberer's present self—understood as a system of occurrent self-knowledge, attitudes, desires, beliefs and values. This characterization explains why these memories are tied to the experience of a present emotion: the rememberer

herself is affected by this past experience, either in a similar manner (such as PTSD cases), by reliving the past emotion felt, or in a new and different way (such as the previous example of shame). On the other hand, affective memories could be defined as memories that represent an environment-subject relation in terms of harms and benefits, where the "environment" refers to a past event personally experienced but the "subject" refers to the rememberer's past self, to the self who previously had this experience. The past self, that is, the past way of being, feeling and believing, a past cenesthesia, is in fact a memory, and as such it is part of the memory representation of the environment-subject relation. In this case, the rememberer herself is not anymore affected by the past environment, but she is a sort of spectator of her past affection. This would explain why affective memories do not necessarily elicit a current emotional experience, but just present to the rememberer a memory of her personal past with an "emotional colouration" or "emotional flavour".

This conceptualization proves to be useful to distinguish two different phenomena situated at the opposite end of the intensity scale of affectively-laden memories, and to assign a specific conceptual content to these two vaguely defined terms—affective memory and emotional memory—as well. But it is important to remember that this distinction is mainly theoretical. Whereas in practice some memory cases may be easy to categorize (such as traumatic memories), in everyday streams of consciousness affective and emotional memories probably come often together or succeed each other, as the advocates of affective memory first suggested, making the identification more difficult, even from a first person perspective (sometimes it is not easy to know if we are still angry about a past event or if we are just remembering our past anger and feeling a sort of sympathy or empathy for our past self).

The phenomenology of affective memories vs intellectual memories

Ribot (1896) and Lee (1932) were both categorical about the distinction between affective and intellectual memories: they refer to different memory kinds. Other authors, instead, considered that the difference between these two memories is a difference in degree: whereas in some memories the intellectual component predominates, in other memories it is the affective component that prevails. Conceived either as different in kind or merely in degree, the contrast between affective and intellectual

memories presents striking similarities to the distinction between episodic and semantic memories, introduced by Tulving (1972), especially with his second reformulation based on the phenomenology of memory (1985).

Tulving's original distinction (1972) between two kinds of memories was mainly based on the kind of information remembered: semantic memory retains information about the meaning of words and concepts and their interrelations, and episodic memory retains "information about temporally dated episodes or events and temporal-spatial relations among these events" (p. 385). So three kinds of information are retained in episodic memory: the *what*, *where* and *when* of some particular event that was experienced in the past. Whereas this first characterization of episodic memory based on memory content reminds one of the notion of "historical recollection" proposed by Lee (1932)—knowing the experience and knowing the circumstances (*who*, *where* and *when*)—the second characterization based on the phenomenology of episodic memory, on the contrary, is akin to the concept of affective memory.

According to Tulving's second conceptualization of episodic memory, the main characteristic that distinguishes this kind of memory from semantic memory is phenomenology. This phenomenal distinction, as well as the previous distinction based on the content, is ultimately grounded on distinct brain systems (Tulving, 1985, 1999; Schacter & Tulving, 1994): the episodic memory system would mainly involve the hippocampus whereas the semantic memory system does not. Nonetheless, what changes in this second way of differentiating the two are the main traits attributed to memory representations resulting from these two systems: episodic memory is characterized by autonoetic awareness and semantic memory by noetic awareness (Tulving, 1985).The concept of noetic and autonoetic awareness, however, are not well defined by Tulving (see Trakas, 2019), but are in general considered as follows: while noesis refers to the conscious experience of simply knowing information concerning a past event, autonoesis also implies the awareness that the past event has been experienced, witnessed or orchestrated by me. Autonoesis is possible because of the human capacity of mental time travel, that is, "to travel back in his or her mind to an earlier occasion or situation in the rememberer's life, and to mentally relive the experienced and thought-about happenings" (Tulving, 2005, p. 14). Therefore, essential to the notion of autonoesis is the idea of re-experiencing past experiences (Tulving, 2002, p. 313). Because of these characteristics, autonoesis "confers the special phenomenal flavour to the remembering of past events" (1985, p. 3). Noesis, on the other hand, only allows the rememberer to be aware of

information related to a past event previously experienced, without any feeling of reliving it (see also Gardiner, 2001).

The distinction introduced by Tulving (1985) between remembering and knowing is almost identical to Lee's (1932) distinction between reliving and knowing. This parallel between the phenomenal attributes of episodic memories and those of affective memories clearly suggest that this last notion should be considered as a precursor of the concept of episodic memory. Although the concept of affective memory is explicitly focused on past emotions and feelings and episodic memory is not, both of them try to capture the particularities of the conscious experience of remembering in opposition to the simple retrieval of information gained through past experiences. As Tulving (1983) explained, experimental studies on memory as well as theoretical conceptualizations in cognitive science completely ignored the phenomenal experience associated with memory before the introduction of episodic memory. Although his statement is certainly unquestionable when framed in the decades before the research boom on episodic memory, the previous sections have shown that in fact thinkers at the beginning of the 20th century had indeed already theorized about these issues in striking similar ways.

The question that nevertheless remains open is if this affectivity of memories (and not their emotionality, which would only be present in some memories) is characteristic of every episodic memory and intrinsically tied to the feeling of recollection and mentally travelling back into the past, or if it is only an attribute of certain episodic memories. One hypothesis is that the affectivity of our memories, that is, the way we were affected by a past event in terms of harms and benefits, and not the naked event itself, is in fact at the origin of the particular phenomenology that characterizes episodic memory recollection. Whereas the advocates of affective memory were ambiguous in this respect, some recent research points—to some extent—in this direction.

There is empirical evidence that emotional stimuli boost the subjective experience of retrieval in comparison with neutral stimuli (Sharot, Delgado, & Phelps, 2004; LaBar & Cabeza, 2006; Yonelinas & Ritchey, 2015). They intensify the whole recollective experience, which includes the sense of reliving the event, the subjective vividness of the memory, and confidence in the accuracy of the memory (Phelps & Sharot, 2008: even if accuracy is not improved, and memory may not be actually accurate in contextual details, but only in the gist). In fact, the more intense the emotional event that is remembered, the greater the sense of recollection (Talarico, LaBar, & Rubin, 2004), a fact that also helps make sense

of the strong feeling of reliving that is characteristic of PTSD (Brewin & Holmes, 2003).

Nonetheless, the studies previously mentioned have not denied the possibility of attributing a sense of subjective recollection to non-emotional events. It has been proposed that different mechanisms mediate the enhanced subjective recollective experience for emotional stimuli and the subjective recollective experience for neutral stimuli. The number of contextual details retrieved could underlie the subjective sense of recollection for neutral stimuli, whereas the type, quality and strength of memory of a few significant details may mediate this same subjective sense of recollection for emotional stimuli (Phelps & Sharot, 2008; Rimmele et al, 2011; Kensinger, Addis, & Atapattu, 2011). But although authors such as Phelps and Sharot (2008) suggest that rememberers have the same subjective sense of recollection in both cases (the only difference would be the intensity), it is not clear that the subjective experience is actually the same. This is related to the lack of precision that characterizes the terms used to describe the phenomenal experience of remembering: subjective sense of recollection, sense of reliving, feeling of re-experiencing, and mental time travel to the past, are among the terms widely mentioned in the literature but poorly defined. Therefore, given the current empirical and theoretical state of affairs, the idea that affectivity may be essential for the phenomenal traits characteristic of episodic memory is plausible but for now mainly speculative.

CONCLUSION

Within the debate on the existence of affective memory, not only is a different conceptualization of the nature of emotions at stake, as Claparède had already noticed, but also a different conceptualization of the nature of memory. Whereas its critics have conceived memory as essentially declarative, its advocates have highlighted the special phenomenology that characterizes the recollection of personal memories, which is intrinsically tied to their emotional aspect and is irreducible to propositional information. This conception, together with the idea that emotional information is in general involved in the construction of personal memories, without thereby necessarily stirring up a new emotional experience, has lately resurfaced in theoretical and empirical studies.

What is more, this close relationship between personal memories and emotion—first emphasized through the notion of affective memory—could be of vital importance for survival (Allen et al., 2008; Eaton & Anderson, 2018). As some researchers have stressed, the enhanced subjective sense of recollection entailed by the affective aspect of our memories increases confidence in the accuracy of memory, thus avoiding rumination on the overall quality of our memory and enabling faster and less ambiguous decision making processes (Phelps & Sharot, 2008). This adaptive importance gives one more reason to bring back the discussion about this old but rich concept whose name has been lost and forgotten in the last decades, but whose meaning remains alive in contemporary research.

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