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Original article

Melancholy and the function of forgetting
A psychopathological note about depression and memory

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SUMMARY

A long lasting psychopathologic tradition concerns the alteration of time perception and of the structure of lived-time in severely depressed (melancholic) patients. This literature can be reappraised in light of the more recent study on the functioning of memory and especially of emotional autobiographical memory. In depressive episodes, the memory of past events overrides the present, preventing the individual from synchronizing with the environment and planning the future. Forgetting the events would be a major strategy for recovery; however, most of the patients are not able to disengage themselves emotionally from the past. This is true not only for melancholic depression, but for complicated bereavement too. From this point of view, melancholy can be considered an illness in which the balance between recalling and forgetting is altered. Based on a phenomenological method, the use of neurocognitive assessment instruments on melancholic patients could shed light on the pathogenesis of depressive episodes with melancholic features.

Key words: melancholy, mood disorders, time, temporality, memory, recalling, re-actualization, persistent bereavement, forgetting

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Introduction: the classic phenomenology of time experiences in melancholic states

The earliest description of depressive states in modern psychiatry is that of Nostalgia (*Heimweh*), the affective pain of soldiers far from home, that is to say an illness of autobiograph memory [1]. Since the beginning of the nineteenth century however, Melancholy has been considered, from a medical-psychopathological point of view, the result of a cognitive [2] or mainly an affective [3] disorder. Since the half of the nineteenth century, classifying depression as a mood disorder has become the most popular approach, even though cognitivist paradigms have never disappeared and recently have been reappraised because of the focus on neurocognitive symptoms of depression in view of their pharmacological treatment. Only since the early decades of the twentieth century, the classical essays of Freud [4], Straus [5], von Gebsattel [6], Minkowski [7], Binswanger [8], and, later, Tellenbach [9] and others [10-14] have paid attention to the existential stasis, and the subjective standstill of time as the fundamental dimensions of Melancholy. The main feature of this condition is the *presentification* of the past, that places in second order actuality, relationships and obligations, so that the present cannot be lived and the future cannot be planned.
Freud[4] studied Mourning as a clinical model for Major Depression (*Melancholie*). Both Mourning and Major Depression follow the loss of a love object in the recent or far past, but in the former the lost object is external, in the latter internalized, consequently the patient experiences a loss of a part of themself. Following Freud's studies, "depressive states" have been considered in psychoanalysis the "pathological equivalent of hopeless mourning" [15].

Straus[5] distinguished "ego-time" from "world time; he observed that the inhibition of inner time in melancholy does not allow the patient to progress toward the future nor to close up and leave behind his/her past experiences. Minkowski [7] described the subjective depersonalization state of the melancholic patients who does not perceive anymore the flow of time in the usual sense (*le temps veçu*) and concluded that "the melancholic patient feels he is running towards the past as if he was captured by it". Binswanger [8] observed and emphasized the alteration of the "temporality texture" in the melancholic patient, according to which memories of the past (*retentio*) overwhelm the present (*praesentatio*) preventing the patients to project themselves in the future (*protensio*). Binswanger's patients complaints are in past tense form in sentences such as: "*if I hadn't done it!", "If this hadn't happened!"* and so they are fatally coloured by guilty feelings. Similarly, Tellenbach [9] focused on the fact that the melancholic patient always believes that they never complete their tasks and aims (so called "remainder constellation"). Finally, Ballerini [12] defined the peculiar experiences on which the melancholic patient is compelled to ruminate on the past as "irremediable, incorrigible"; analogously, Kuiper [16] confirms in a personal report of a depressive state: "*What has happened can never be undone again. Not only the things go by, but also possibilities pass by unused*". If everything has already happened and cannot be changed, nor viewed from different perspectives and interpreted with different meanings (worked through), then the future time cannot be anything other than an extension of the past. Because of this dominance of the "absolute past", "memories become regrets, the events of life faults" [11].

These psychopathologic observations mirror some earlier philosophical intuitions, such as the well-known Friedrich Nietzsche's quotation "Blessed are the forgetful; for they get the better even of their blunders" [17]. Nietzsche's quotation was allegedly/anectoticly inspired by a subjective melancholic state. In the nineteenth century, the great Italian poet and philosopher Giacomo Leopardi had already described his own "stubborn, black, ugly, barbarous melancholia" as the "turnover of the future in the past, of hope in recalling, because of the absence of life that wastes reality and depletes the desire of objects" [18]. Finally, the rumanian-french aphorisms-writer Emil Cioran describes his own melancholic experience: "To live means undergoing the appeal of the possible: but when we perceive in the possible in itself only a becoming past, everything is virtually past, and there is no present nor future" [19].

Patients frequently verbalize similar realizations: "*I felt a void full of past time conjugated in the present time; the present is the past and the past is the present. It's the same thing. It's a blank and still oscillation of the time without future*" (C.T); "*I felt my heart squeezed by a painful constriction, memories came back without rest, it is not the future to kill you but the past, when it returns, harasses you, hollow you until it kills you*" (M.H.); "*if what happened in my adolescence hadn't happened, I wouldn't be here looking for psychological help*" (E.B.)

In his almost completely forgotten psychopathological research on endogenous psychoses, Janzarik [20] has been the first to discuss not only the altered perception of time, but also the alteration of memory during manic-depressive episodes: past events are "re-actualized" in the acute manic-depressive episodes so that old facts are retrieved and updated as if they were present.

Following Leopardi and Cioran's psycho-philosophical argumentations, we should is past event rumination ask it is a sequela or the cause of the plenty of present objects? Each psychiatrist well knows how much the depressed patients, prisoners of the past, are not able to find new activating aims and objects, lack of "teleological time", even if "conative drive" is preserved [14]. Even in course of treatment, this position increases the feelings of hopelessness both in them and in the therapist. Effective remission of the phase of illness can be observed only when the patient begins to get rid of the past memories; however relapses are frequent and, with them, the return of the painful ruminations on events believed or perceived as irremediable.

The aim of this psychopathological note is to rise some questions from a clinical and neurocognitive (not psychoanalytical, not philosophical) point of view about the relationship between depressive states (melancholy), disturbances of lived-time and memory, and to underline the fundamental, complex, bi-univocal, ambivalent link between mood disorders, remembering and forgetting, in view of further clinical observations and researches.

The DSM-5 and the complicated mourning

Perhaps because of the academic crisis of the psychopathological European tradition, the current diagnostic criteria [21] of Depressive Disorders show almost no traces of the phenomenological contributions of the early twentieth century. The term "melancholic feature" exclusively refers in modern manuals to the lack of reactivity, anhedonia, vital symptoms, and to an "excessive or inappropriate guilt" [22]. However, references to time experience are explicit in the criteria of Post-traumatic Stress Disorder ("recurrent, involuntary, and intrusive distressing memories of the traumatic event(s)" and in those proposed for the Persistent Complex Bereavement Disorder, in the section "Conditions for further study". This category recalls Freud's study on mourning as a model for melancholy; the first criteria B1 is "Persistent yearning/longing for the deceased". This criterion refers to persistent suffering because of the loss of a love object prolonged for at least 12 months.

This condition may be complicated by "traumatic" features of the linked experiences, such as a violent or dramatic type of death (traumatic bereavement). Complicated bereavement overlaps with both Depressive Disorders, Post-traumatic Stress Disorder, and Separation Anxiety Disorder (i.e. a condition defined by anxiety feelings referring to hypothetic, future events of loss). This is the only observable link between the current nosography and the classic concepts of "Reactive Depression" [23] or "Endoreactive depressions" of the Heidelberg school [23,24]. From a psychopathological point of view Fuchs [13] underlines that during emotive, acute, interpersonal experiences (e.g. trauma, guilt, loss, or separation) "the person temporarily loses the lived synchrony with others". Prolonged desynchronization becomes the marker of a characteristic melancholic depressive state. The depressive patients do not share the "temporal orientation that we ordinarily take for granted" [14]. Implicit time, in the terminology of Fuchs [13], replace the explicit, chronological, shared time.

Current nosography appears to have "thrown away the baby with the dirty water" with the aim of excluding not empirically definable diagnostic criteria. DSM-5 [21] admits that "adverse childhood experiences and stressful life events" may be considered "precipitants of major depressive episodes", however it maintains that "the presence or the absence of adverse life events near the onset of episodes does not appear to provide a useful guide to prognosis or treatment".

This point of view rules out memory as an important pathogenetic factor in Persistent or Complicated Bereavement as well as in Major Depression. If the past is present, if the events are re-actualized, and if melancholic patients are compelled to ruminate exclusively on past "irremediable" events, then the *function of forgetting* is necessarily impaired, suspended, or overwhelmed by remembering. In complicated mourning processes, the course of time halts, while the dead person is ever-still-present, as it appears in this short poem [25]: "*Mourning: What bores me/abrasive blade inside my brain/is not your dead/in a bed, a spring,/but that you still die/every day, in every season".*

In the Persistent Bereavement Disorder, the recovery cannot occur until the feelings of the yearning/longing or post-traumatic dysregulation associated with the death vanish. Only then the accompanying backwards ruminations and interrogations that for months completely absorb the mind of the survived, negatively colouring and depleting of sense their life [26] regress: "*I still think about him [the dead father], but no more with the deep anxiety and the ruminations I suffered for two years; I used to feel bad, now not anymore*". (MB)

Current literature on memory failures and depression is very heterogeneous and not conclusive; there is a general assumption that memory is concerned, biased and, in some cases, impaired in depressive episodes [27,28], such as the effect of a dysregulation of emotions by way of inhibitory processes and deficit in working memory. These would support ruminative responses to negative mood states and negative life events, as well as difficulties in disengaging from negative material [29].

A short reference to a movie

Eternal sunshine of the spotless mind, written by the Oscar winner screenwriter Charlie Kaufmann [30-31] provides a witty representation of the functioning of autobiographical memory in its narrative, emotive e imaginative (imaginery) elements [29]. The movie talks about the story of two young ex partners who, following their separation, singly ask for help to a physician (Dr. Merzwyack), in the fictional medical-psychological institute "Lacuna Inc.", with the aim of relieving their depressive pervasive feelings. The physician can identify the memories linked to their love affair by mean of a sort of functional RMN and delete them while the protagonists are asleep, so removing the psychical pain linked to the memories. The therapy is doomed to fail not because of its inefficacy, but especially because of the resistance of the patients who are not completely asleep and resist the feeling of losing parts of their personal story and identity.

The idea of this science-fictional plot is not so bizarre and its "scientific principle", explained by Dr. Merzwyack, could have even some real scientific value: "*There is an emotional nucleus in our memories; when we delete it, the downgrade process starts*". In clinical practice, it is obvious that some bereavement processes as well as some depressions unleashed by stressful events (loss or death or separation) remit only when the emotional nucleus of the memories begins to fade away.

But what do the current scientific data of experimental neuropsychology say about the process of *emotional forgetting?*

The neuropsychology of forgetting

Memory is a very complex function that encompasses different short-term and long-term neuropsychological processes, from working memory to conditioning acts and all sort of learning, declarative memory, including the autobiographical memory [32,33]. A plethora of studies on memory disturbances in depression concern the impairment of attention and working memory [34,35]. However, the processes of remembering (or forgetting) personal experiences (autobiographical memories) seem to be more relevant for psychopathology, especially when such experiences are charged with emotions [33,37]. The autobiographical memory is the result of a complex integration of memories, thoughts, representations, affects, needs, and

aims of the individual, and it has a well-defined role in establishing the identity of the Self and the organisation of personality (Self-schema [38]; autobiographical Self [39]); it includes the simple recalling of the event, which seems to involve hippocampal circuits, and the emotional components of the remembering, which implicate the role of amygdala [40]. Some vivid images ineffaceably linked to specific events are called "flashbulb memories" [40].
Earlier researches in the field of psychology of recall processes established that memory traces are better fixed if connected to a reinforcing stimulus [42,43]. More recently, it has been demonstrated that emotions themselves are reinforcing stimuli. Hence, the memories concerning negative personal events are more strongly fixed and more vividly remembered [44]. However emotional memories exhibit a lower number of details and a higher number of mistakes because the high emotional arousal causes a narrowing of the attention field at the time of the event [45].
On the one hand, state or mood-congruence enhances the recall of the event [40], while, on the other hand, different mood states repress it. The emotional memories, in comparison with the neutral ones, are resistant to forgetting (so called "slow forgetting") [46,47], even if the time of recalling may be delayed for many years [47,48]. This case reminds the involuntary memories triggered by sensorial stimuli, well described at the beginning of the nineteenth century by the novel-writer Proust [48,49].
The literature on sexual abuses has widely shown the complexity of recalling traumatic or almost-traumatic memories, that can be repressed or removed from awareness for years and even decades, until some mood-congruent situations or other conditions, for example a manic-depressive episode, triggers their recalling [50]. The recalling of traumatic life episodes often partially overlaps with the reality of facts, because of the well-known process of continuous rebuilding of memories and their interplay with more or less consolidated beliefs. Sometimes, only single "now print" images are remembered and recalled [51-53].
In summary, many data support the persistence or retrieval of emotionally charged memories of life events, whose presentification unleashes mood alteration or, conversely, is accomplished because of the mood congruence. It is time to open a new field of clinical research on neurocognition of memory in depressive states, especially melancholic, that explores the inhibition and enhancement processes of remembering.

Can Melancholy be considered an illness of memory?

If in the melancholic conditions the time is still (the temporality is halted or desyncronized from the environment [13]) and the patient cannot enjoy at all the usual activities in the present nor project himself in the future because of the persistence of the past, of ideas of guilt, ruminations on events that seem to be irreparable and beyond every remedy. Thus Melancholy is not only an illness of lived-time and temporality, but overall of forgetting or recalling.
Something must have happened before the uprising of a melancholic state; one or more facts that, by coming back in mind as it was present, interfere with the normal dynamic and evolution of existence. The question is whether events unleash melancholy or conversely, the melancholic episode keeps or recalls the events and associated secondary set of guilt ideas, ruminations, regrets in the mind. The typical conditional sentences (e.g. "*If it hadn't happened...*") of the melancholic patient demonstrate that there is no melancholy without some key-unleashing-event, or without a key-event that has frozen the subjective course of life in time. A melancholic patient can be considered a survivor who tries to cope with their past life to overcome it, without finding a concrete solution: life passes by on the surface, but not really in his/her inner world. He/she sometimes feels as "a disconnected witness to a life that is over" [14].
But different nosographic categories beside melancholy, and probably different types of depression [14], imply the function of memory and forgetting. Criteria for Post-traumatic Stress Disorder recognize the specific role of an event as a pathogenetic factor, and DSM-5 shows significant overlaps between PTSD and major depression. If we focus on time and memory interplay, we can argue that the overlap is greater than usually admitted.
The memory of a Panic Attack causes clinical sequelae such as anticipatory anxiety and hypochondriac ideas or agoraphobia. Even the dysfunctional patterns in the different Personality Disorders imply fixated and consolidated ways of coping with early childhood experiences (i.e. not declarative memory). Finally, episodes in Bipolar disorder independently from the quality of mood (depressive, mixed, dysphoric and so on – any sort of Mood could ease mood-congruent memories) can reactualize past life-events.

What is specific to Melancholy, then? The *duration of the time-period before the emotional component of the memory of a negative event* (for example a death, a loss etc.) *fades.* Such interval of time depends on the interaction between the event and the personality, and, also, on some features or details of the event (e.g. faulty or traumatic aspects). There is a sort of *biological time* needed to isolate narrative and autobiographical memories from their emotional component. In this sense we can understand why some traditional cultures prescribe standard periods of time after the death of a strict rela-

tive before the individual can begin to live without the psychological interference of the bereavement.
However, not all events can be completely emotionally forgotten and worked-through; mood-congruent situations can reactivate old, appeased emotions linked to specific, ineffaceable events, signalling a problem, a risk, a threat, a challenge for ego-identity, and the vulnerability areas of the personality, already struck by the event many years earlier. Several melancholic patients have been dramatically affected by early childhood events, such as the death of a parent, as incurable wounds always bleeding.

The different kinds of time in subjective experience: learning from clinical conditions

The clinical-phenomenological analysis of time experience in depressed (melancholic) patients raises the question of the different kinds of time experienced and conceived by human mind. The first kind of time is, obviously, the *chronological or astronomical or watch- or objective (objectualized), scientific time*, that is needed to measure a period of time consensually.
The second is *the subjective experience of the flow of time*, the *duration*; it has been largely studied by psychologists and philosophers until the end of nineteenth century [54,55]. This includes different perceptions of time in boredom [56], depression, mania, during the usual routine or in extraordinary circumstances of life and at different life stages. A form of subjective time is also the autobiographic one: in the twentieth century, psychoanalysis and psychoanalytic experiences, as well as many literary autobiographic (psychoanalytic) narratives point out the anarchic stream of subjective, unlinear, or multivectorial memories and autobiographical writing could be a way to work-through painful memories and events (for an example [57]).
The third kind of time is the *biological time*: it is the time needed for the fading of the emotional, painful component of memories of autobiographical events, so that they cannot intrude anymore in disturbing the present. It reflects the duration of biological processes needed for the transition from short- and long-term memories, the encoding processes, the reshaping work and so on. The final form of the memory of an event is mainly cognitive and the emotional component of the memory itself is a narrative memory with ever more feeble emotional components. The biological time is fundamental for the clinical course of some depressive or post-traumatic experiences: until the memories are not emotively neutralized, the subject suffers from the emotional correlation of memories.
The fourth kind of time is even more subjective: it is *the time that makes some events ever present*, outside the normal process of working through. We might call it *psychopathological inability to forget*; it concerns specifically the events associated with melancholic chronic experiences (clinically called chronic, complicated, or resistant depressions) but also recurrent episodes and relapses of the illness and chronic course of Post-Traumatic Stress Disorder. These events seem to escape the processes of forgetting and to strictly connect with mood alterations.

Conclusions: melancholy, time, memory, forgetting

We can argue that two types of retrieval memories are involved in the subjective melancholic experience:

a) memories of recent events affectively charged as in recent traumas or in bereavement or losses and so on;
b) memories of far events or traumas that are repressed or removed but never really forgotten because of their emotional impact, and that can arise many years after their occurrence because of occasional circumstances, sensorial stimuli or mood-state congruence.

In case a), the subject is a sort of hostage of the *biological time* needed to overcome the painful effect of an event. Until this time, that varies depending on the event and on the individual, has passed by, the melancholic mood cannot change.
In case b), the relationship between events and the process of forgetting or recalling is much more complex, because it is mediated by manic-depressive episodes (mood-congruent memories), life circumstances (associative paths), or sensorial stimuli (involuntary memory). But whatever the way, the common result is that a past event is perceived as present again, with its emotional charge, and the awareness of its ineffaceability.
Being able to forget or to forget quickly negative events is perhaps a good trait marker of melancholy-invulnerability.
Because of the autobiographical memory implications, a wide number of melancholic episodes are full of subjective, personal meanings for the patients. The subtle and dynamic equilibrium between remembering (recalling and reconstructing events) and forgetting (letting autobiographical memories become affectless codes) could be perhaps the main system neurobiologically and psychopathologically involved in Melancholy, although it is scarcely taken into account both by patients and clinicians. It could be a cause of treatment-resistance, because we actually have not any drug to delete the emotion still linked to past events. It is a very simple and trivial finding, but it seems to be quite true.
The aim of this psychopathological note is to rise some questions from a clinical and neurocognitive (not psy-

choanalytical, not philosophical) point of view about the relationship between depressive states (melancholy), disturbances of lived-time, and memory, and to underline the fundamental, complex, bi-univocal, ambivalent link between mood disorders and remembering and forgetting, in view of further clinical observations and research.

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