

The science and philosophy of memory in the 21st century. Part III. Antecedents (2): three founders: Freud, Wittgenstein, and Heidegger

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ABSTRACT

In this third part of the series, we will review the origin of the subject of the “two cultures” and its relevance for our inquiry, which involves a hermeneutic dialogue between philosophy and the sciences, rather than the construction of a mixed “third culture.” The main objective of this article is to present a brief, but essential, introduction to the figures of Freud, Wittgenstein, and Heidegger, the “founders” of three traditions of thought that remain alive in the 21st century. In each, memory and recall offer a therapeutic or emancipatory potential, and are key to addressing the “pathological” or “inauthentic” in personal and collective life. Whereas in Freud we find a theoretical model of memory (at the service of a therapeutic practice, psychoanalysis), Wittgenstein takes a critical attitude to the radical difference between the everyday, conventional use of the concepts of recall and memory (the realm of grammar) and, on the one hand, the associated natural and physiological processes (the realm of science), and on the other, their analysis through abstract mental or psychic concepts (the realm of “bad philosophy”). Finally, for Heidegger, memory or recall is a constituent element of the existential unity of human life, understood as *Dasein*.

KEYWORDS

Memory, Freud, Wittgenstein, Heidegger, 20th-century philosophy, the two cultures

Introduction: the two cultures

In the words of the poet Machado,¹ “the path is made by walking”; the same is true of this series of articles on the science and philosophy of memory. Our destination, which will be characterised throughout the series, is in the 21st century, our own time, but we shall make the journey step by step, like a process of learning. Like Bob Dylan’s *Mr. Tambourine Man*,² we need “wait only for [our] boot heels to be wandering.” However, that which is said, done, and published has its consequences (“and when you look back,” continues the poet¹), which project forward to the future and from which we must also learn.

From our journey so far, we may conclude that, when considering fundamental authors and thinkers such as the protagonists of this *history*, we must seek the balance between taking an exhaustive approach and addressing that which is essential.^{3,4} The former involves (horizontal) extension, which is limited in this type of article (one of its main virtues). The latter, in turn, involves a more or less vertical perspective, a certain reading and interpretation of the works. This is much harder to achieve and communicate.

The task at hand is particularly demanding when, as in the present article, we are addressing three figures, three authors, who are (as per the title of the article) “founders,” the first proponents of new thought traditions. We

may only aspire here to present a brief, but “essential,” introduction to the lives and work of these three thinkers, and address the original perspective of each regarding memory, something akin to a study guide. Why no more (or no fewer) than three? Why them and not others? The answer to these questions may also involve a degree of interpretation (personal, naturally), but analysis of European scientific and philosophical life in the early 20th century⁴ reveals the spontaneous emergence of these three giants, Freud, Wittgenstein, and Heidegger, whose thought is cast like a shadow over the entirety of the 20th century, reaching the present day.

Indeed, Sartre⁵ described philosophy as “this shadow of science, this grey eminence of humanity.” Before we continue, we should make one further observation on the dichotomy mentioned by Sartre, which constitutes the central methodological approach in this series: an attempt to establish a “binocular” scientific/philosophical view of the phenomena and processes contained within the concept of memory, from a historical perspective. A hitherto neglected question that warrants our consideration is how this approach is related to the now classic (and topical) idea of the “two cultures.”

On 7 May 1959, Charles Percy Snow⁶ gave his famous Rede Lecture at the Senate House in Cambridge, entitled “The two cultures and the scientific revolution.” The media and cultural impact of the lecture was enormous, both within and beyond Europe, and gave rise for years to an extensive body of commentary, mostly praising Snow’s interpretation. Snow had identified a key issue in Western culture and education that had been a problem for decades, something he had begun to see while working as a physicist (1930s) at the Cavendish Laboratory in Cambridge, directed by Rutherford, and had confirmed during his subsequent career as a successful novelist. Snow was later appointed to a high-level position in the Ministry of Technology under a Labour government, and took the opportunity to address this social divide between the “two cultures,” creating the first state-run education infrastructure for mass training of engineers. He believed that the scientific revolution of the first decades of the 20th century demanded that leaders and lawmakers not be trained exclusively in the humanities, and that the United Kingdom was lagging behind the United States and USSR in this respect. It is worth reflecting on Snow’s words, from his summary, printed four years later, of the original lecture (“The two cultures: a second look”):

I gave the most pointed example of this lack of communication in the shape of two groups of people, representing what I have christened “the two cultures.” One of these contained the scientists, whose weight, achievement and influence did not need stressing. The other contained the literary intellectuals. I did not mean that literary intellectuals act as the main decision-makers of the western world. I meant that literary intellectuals represent, vocalise, and to some extent shape and predict the mood of the nonscientific culture: they do not make the decisions, but their words seep into the minds of those who do. Between these two groups—the scientists and the literary intellectuals—there is little communication and, instead of fellow-feeling, something like hostility.^{6(p60-61)}

We might wonder why Snow’s formulation of the “two cultures” continues to be so relevant today, why it seems to express something so obvious that it requires no further explanation. In fact, the real question may not exclusively concern the cultural (and educational) divide identified by Snow, but rather the more general issue of *specialisation*, in education, knowledge, and work. Félix Duque, with his characteristic lucidity, formulated this problem as follows:

The continuous, expanding advance of science is inverted in the mutual disconnection of atomised areas [...]. The continuous creation of specialised languages for each branch of knowledge prevents the existence of knowledge; the specialist in the particular (as are we all, whether or not we are scientists) is illiterate *in general*.^{7(p282)}

However, there may be another facet to this problem, which does not solely concern languages and words (and concepts), but also our modes and manners of speaking and thinking, of looking and seeing. We may consider, in accordance with the approach taken in these articles, that at the borders, the extremes, of what Snow calls the “two cultures,” we may find those practices that, in a somewhat simplified way, are understood today as “science” (empirical) and “philosophy” (and especially, as we have previously suggested, the so-called “continental” philosophy^{3,4}).

Development

Sigmund Freud: memory as disease

Examining the figure of Freud from our modern perspective requires a certain amount of effort. How can

we conceive of his relevance in the 20th century and his place in today's science, philosophy, and culture? Regarding the first point, we may refer to some famous texts published after Freud's death in 1939, when he was in exile in London. In his eulogy at Freud's funeral, Stefan Zweig said:

Do not expect me at this time to praise the conquests of Sigmund Freud. You know his contributions, who does not know them? Who, of our generation, has not been formed and transformed by them? This supreme discoverer of the human soul lives on as an immortal legend in all languages [...].⁸

In turn, W.H. Auden, with a certain *Homeric* tone, ended his poem "In memory of Sigmund Freud" with the following words:

[...] One rational voice is dumb. Over his grave
the household of Impulse mourns one dearly loved:
sad is Eros, builder of cities,
and weeping anarchic Aphrodite.⁹

The most influential thinker of his day,¹⁰ who, after Copernicus and Darwin, inflicted the third "narcissistic injury" on humankind¹¹; what remains of Freud's work nearly a century after his death? To what extent is it valid, and in what areas of knowledge? Freud's presence has gradually declined in the scientific literature over the 20th and 21st centuries, whereas it has increased in the humanities.¹² However, psychoanalysis, in all its forms, occupies a special place in the current literature, largely at the periphery of academic psychology and psychiatry.¹³ With respect to the subject of this series of articles, at the end of this section we will attempt to characterise the current relevance of Freud's extensive reflections on memory.

Sigmund Freud (1856-1939) was the eldest of eight children born to a Jewish family in Freiberg in Mähren (former Moravia). Soon after his birth, the family moved to Vienna, where Freud remained for his entire career until 1938, when, aged 78, he and his daughter Anna took exile in London, fleeing Nazi persecution. Although he always presented himself as a scientist (he sought to be a "biologist of the mind"), his extensive lectures on humanistic and philosophical subjects from a young age are well known.¹⁴ As he himself later wrote, he became a scientist to avoid becoming a philosopher.¹⁵ He completed his medical studies in 1881, and worked for a year at the laboratory of Ernst Brücke, a defender of Helmholtz' mechanistic biology against the prevailing doctrine of



Figure 1. Sigmund Freud in his study in Vienna with his dog Jofi (ca. 1929). Freud is known to have had a special relationship with several chow chows in the later stages of his life, as well as during his exile in London. For years, Jofi shared her owner's psychoanalysis sessions. Freud stressed the absence of ambivalence in human-dog relations, and the animals' capacity for "pure love" (source: <https://dogs-in-history.blogspot.com/2019/08/sigmund-freuds-helpful-dogs.html>).

vitalism. There, he met Josef Breuer, with whom he took his first steps in the development of psychoanalysis. His earliest publications focused on aphasia, cerebral palsy, and the therapeutic use of cocaine.^{16,17} From 1886, he dedicated his work to the private practice of neurology, also working for five months under Charcot in Paris, where he became interested in hysteria. From his famous consultation in Vienna, he was able to continue disseminating his ideas internationally, especially at the First International Psychoanalytic Congress in 1909 and in his lecture series "Five lectures on psychoanalysis" in the United States (1909) (Figure 1).¹⁸ He also witnessed the emergence of various offshoots from the original school of psychoanalysis (A. Adler, C.G. Jung, O. Rank).

Freud's oeuvre can be divided into purely scientific works (those dedicated to developing the theory of psychoanalysis, whose scientific value has been questioned, for example in the now classical critique by K. Popper) and those analysing culture, society, and religion. The latter, written relatively late in his career, include works such as *Totem and taboo* (1913), *The future of an illusion* (1927), *Civilization and its discontents* (1930), and *Moses and monotheism* (1939), among others. These

works led J. Ricoeur to include Freud among the authors of the “hermeneutics of suspicion,” alongside Nietzsche, Feuerbach, and Marx.¹⁹ With respect to his strictly scientific works, extensive study has been dedicated to the evolution of his thought, from his and Breuer’s *Studies on hysteria* (1895) to the mature formulation of his theory of the psyche in *The ego and the id* (1923), via *The interpretation of dreams* (1900), *The psychopathology of everyday life* (1901), *Three essays on the theory of sexuality* (1905), and *Beyond the pleasure principle* (1920). This evolution represents the author’s journey from what has been called his “first topic” (a topographic vision of the structure of the mind: conscious, preconscious, and unconscious) to his “second topic” (the dynamic interaction in the mind between the id, the ego, and the superego). We must also remember Freud’s extensive correspondence, especially with his friend Wilhelm Fliess, a physician, psychologist, and biologist from Berlin. D.T. Kenny²⁰ presents a general overview of the main contributions from Freud’s theoretical thought:

1. The human being is primarily an animal driven by instinct, in contrast to the dominant view at the time that man was the highest form of God’s creation.
2. The impulses by which humans are moved, whether sexual or aggressive (Eros and Thanatos), are socially unacceptable and are therefore repressed and constantly in conflict with the *civilised* self.
3. The complex mental activity occurring beyond conscious perception has a profound impact on behaviour and psychological well-being.
4. The relationship between mother and child, and therefore infantile sexuality, is essential to the development of the psyche.

The question of memory is central to Freud’s work, and is present throughout the development of his theory. The central concepts of psychoanalysis (desire, instinct, dreams, association, neurosis, repression, repetition, the unconscious) can be understood as functions or dysfunctions of memory. This situation has been described as the “paradox of memory” in Freud: by exercising memory, we seek to heal traumas, whose capacity to disrupt our existence depends precisely on our memory. Or rather, according to psychoanalysis, on our forgetting their origin. What is the past, what is forgetting, what is real in memory? In psychoanalysis, memory is, fundamentally, unconscious memory, the place of repressed recollections, where the past is conserved “literally, timelessly,

and permanently.”^{21(p100)} Let us briefly review some key parts of Freud’s oeuvre where he focuses on specific aspects of memory.

Project for a scientific psychology (1895, published in 1950). Drafted over a period of a few weeks in autumn 1895 (as described in his correspondence with Fliess), initially with great enthusiasm and later with increasing doubt, this work is Freud’s first attempt to construct a model of the psyche, including the ego, where memory plays a key role. It left a clear mark on the subsequent development of Freud’s theory.

The model (*Entwurf*) sketched by Freud is based on a dialogue between two explicative or heuristic levels: the cellular (neuronal and neurophysiological) level, and the psychological level.²² Freud accepted the neuronal theory of Cajal, the idea that neurons are the main element in the integration of the nervous system and that a central role is played by interneuronal connections (“contact-barriers,” in Freud’s terminology). He also accepted the basic functional differentiation of motor neurons, sensory neurons, and interneurons,²³ as well as the transmission of *energy* between them, in accordance with the neurophysiological evidence of the day (Sherrington, Adrian) and within the framework of his master Brücke’s mechanistic model of living organisms. From a psychological perspective, he attempted to explain the origin of global processes such as memory, consciousness, and ego:

One of the chief characteristics of nervous tissue is that of “memory”: that is, speaking generally, a susceptibility to permanent alteration by a single process. Any psychological theory deserving consideration must provide an explanation of memory.^{24(p359)}

Freud’s model of neuronal integration involves the participation of 1) neurons responsible for the perception of internal and external stimuli (Φ), 2) memory neurons (Ψ), and 3) neurons that sustain consciousness (ω , for the *W* of *Wahrnehmung*, conscious perception). Stimuli triggering the transmission of quantities (*Q*) of energy between neurons may originate externally (external senses) or internally (bodily needs), and the system tends to stabilise itself (principle of constancy), in a Darwinian explanatory framework: *urgency of life* (*Not des Lebens*). Neurons do not act on one another unless an excitation threshold is reached. While *permeable* perceptual Φ neurons return to their previous state after excitation and

discharge, *impermeable* Ψ neurons are permanently altered, enabling them subsequently to channel similar excitations. Thus, the paths channelling energy flows are not preprogrammed, but rather are the result of “facilitations” (*Bahnungen*) left behind by energy discharges (“cathexis”) that previously travelled through the systems. The differential totality of these pathways constitutes memory (*Gedächtnis*: structural, systemic memory), and this process is not conscious (unconscious memory). Conscious perception of qualitative differences requires an additional system, that of the ω neurons, whose activity is based not on quantities (Q) of energy, but rather on qualitative aspects of energy flow (eg, the frequency and amplitude of discharges). Recent neurophysiology research has highlighted the value of Freud’s intuitions about what later came to be known as long-term potentiation (LTP)²⁵ and the problem of attention and consciousness.²⁶ Therefore, the trace (*Bahnung*) of memory in Freud does not involve deposition of any new material in the tissue; rather, it is dependent on the reorganisation of a neural system of thresholds and courses of energy discharge and retention. This concept is somewhat reminiscent of a written record of an event.^{27,28}

By way of this $\Phi\Psi\omega$ apparatus, Freud also explains the experience of pain and pleasure, and the constitution of the ego (“the totality of the Ψ cathexes, at a given time”). The inhibition exercised by the activated (“cathetised”) ego allows, for example, for the ω system to emit “signs of reality” that protect the subject from hostile recollections and hallucinations. Thus, the so-called secondary psychic processes constitute attenuated versions of primary processes. In the secondary plane, activation of a desire, for example, will evoke a desired mnemonic image (mem+). If perception does not coincide with this image, then a series of evocations of resources and recognitions is triggered (reflective memory) that will lead to a judicative activity.^{24,29}

In *The interpretation of dreams* (1900), an essential role is played by the dialogue established by the therapist between conscious memory of the remembered dream (its manifest content) and unconscious memory (latent ideas), penetrating the labyrinth of the subject’s resistances and repressions. To that end, the therapist uses the patient’s association of ideas, which is never entirely free but rather is conditioned by the state of resistances during sleep and wakefulness. Finally, the therapist will reach a therapeutic interpretation of the “primordial scene” conditioning the repression of the memory.²⁹ Thus, there is

no forgetting, but only a transfer of contents and senses between the two types of memory, between the two systems, whose organic character, for Freud, was considerably modified with respect to the *Entwurf*:

Nevertheless, I consider it expedient and justifiable to continue to make use of the intuitive representation of the two systems. We can avoid any possible abuse of this method of representation by recollecting that representations, thoughts and psychical structures in general must never be regarded as localised in organic elements of the nervous system but rather, as one might say, between them.^{30(p611)}

In *Beyond the pleasure principle* (1920), before embarking on an admirable exercise in “biological speculation,”³¹ Freud refers once more to the system of consciousness (Cs), in which all other systems “leave permanent traces behind [...] which form the foundation of memory.” The speculation that follows aims specifically to explain how in an (ontologically and phylogenetically) primordial being, “an undifferentiated vesicle of sensitive substance,” the progenitor cells of those cells that sustain consciousness (neuroectoderm) are located externally, exposed to external stimuli. A first functional differentiation would lead to the generation, at the deepest layers, of elements that (unlike superficial cells) undergo permanent modification of their capacity to transmit energy discharges.

It may be supposed that, when passing from one element to another, an excitation has to overcome a resistance, and that the diminution of resistance thus effected is what lays down a permanent trace of the excitation, that is, a facilitation. In the system Cs, then, resistance of this kind to passage from one element to another would no longer exist.^{31(p20)}

Consciousness and memory, then, are segregated, mutually incompatible functions, whose neurophysiological substrates are equally differentiated. In this text, Freud posits the principle that “consciousness arises instead of a memory-trace.”

Finally, in *Notiz über den “Wunderblock”* (1925), Freud uses the writing system of the “mystic writing-pad” to represent his model of memory. An analysis of this short text led Derrida to ask: “what is a text, and what must the psyche be if it can be represented by a text?”²⁷ The device, which many of us used as children, is made up of a soft substrate (a slab of wax, in Freud’s time) stained with some kind of ink, over which a thin transparent sheet was placed (two sheets were used in the device analysed



Figure 2. Ludwig Wittgenstein with friends in Vienna (ca. 1928) during the long period in which he distanced himself from the academic philosophical tradition, shortly before his return to Trinity College, Cambridge (source: <http://wittgenstein-initiative.com/lw-vor-dem-haus-c-fam/>).

by Freud: a fragile sheet of waxed paper, and a more durable celluloid sheet). If the tip of a pencil is used to write or draw on the pad, the adherence of the sheets to the wax slab appears as a trace. Using a sliding bar placed between the sheets and the substrate, the two could be separated, erasing the text (hence the “magic” of the device). In Freud’s analogy, two systems are in contact and undergo temporary (the sheets, which represent consciousness) or permanent change (the substrate, or memory). Freud notes in his text that examination of the surface of the substrate under oblique lighting reveals the traces, the imprints of previous marks, even though they are no longer visible through the sheets.

Finally, then, Freud considers the theoretical model of the mind to prevail over neurohistological or neurophysiological evidence and considerations.²² Where there is consciousness, there is no memory, and where there is memory, there is no consciousness; rather, it is precisely where these two domains meet that, according to the theory of psychoanalysis, the cure for pathological elements of memory is to be found.

Ludwig Wittgenstein: philosophy as therapy

Our second founder, like Freud, was of Austrian origin and followed a fundamentally therapeutic intellectual approach. Ludwig Wittgenstein was born in Vienna in 1889 into the family of a wealthy iron and steel magnate; the family was also well placed in the city’s intellectual and cultural circles (his sister Margarethe is portrayed in a famous painting by Gustav Klimt). He initially studied aeronautical engineering in Manchester, and his special interest in mathematics, which became a life-long passion, led him to contact G. Frege (1848-1925). Following the advice of the latter, he spent three years (1911-1914) working with B. Russell (1872-1970) and other Cambridge philosophers. In 1915, Wittgenstein returned to Austria to enlist in the army, fought in the First World War, and spent several months in a prisoner-of-war camp. It was during this period that he wrote the notes and drafts that took form in his *Tractatus logico-philosophicus* (*TLP*), the emblematic text of the “early Wittgenstein,” which he published in English in 1922 with an introduction by B. Russell. In the 1920s, Wittgenstein distanced himself from academic philosophy, and renounced his family’s immense fortune to work as a gardener, secondary school teacher, and architect (Figure 2). During this period, he had sporadic, critical relationships with members of the Vienna Circle, who adopted the *TLP* as one of their fundamental texts. In 1929, responding to demands from his colleagues in Cambridge, he began giving classes at Trinity College, thus marking the beginning of the “middle Wittgenstein” period, characterised by his rejection of dogmatic philosophy. The *Blue and brown books*, among other posthumous texts, were written in this period. During the 1930s and 1940s, he gave seminars in Cambridge, interrupted by the Second World War, during which he developed the ideas for his *Philosophical investigations* (*PI*), a representative work of the “later Wittgenstein,” which was published after his death. He resigned from his professorship in 1947

and made several trips to the United States and Ireland, and died of prostate cancer in Cambridge in 1951.³²⁻³⁵

The *TLP* is built upon the foundation of seven propositions (1-7). Each of these, with the exception of the last, is followed by a hierarchically structured and numbered series of associated propositions. “The world is everything that is the case” (1).^A The world is the totality of facts (1.1), and is represented in thought and language in the form of propositions with sense, with meaning. A proposition is a picture (*Bild*: a model, a representation) of reality (4.01), which may be true or false. Thought, world, and proposition share the same logical structure. The general form of proposition is: such and such is the case (4.5). Only true states of affairs can be represented by propositions with sense: the propositions of the natural sciences. Finally, “whereof one cannot speak, thereof one must be silent.”^B That which we cannot say, however, may be shown; this is “the mystical,” the traditional domain of ethics, aesthetics, and metaphysics. “Not *how* the world is, is the mystical, but *that* it is” (6.44).^C The therapeutic function of philosophy is to distinguish between propositions with and without sense: not to *resolve* philosophical problems, but rather to *dissolve* their logical structure. The majority of propositions and questions in philosophical works are not false; rather, they are senseless (4.003). Thus, philosophy is not a theory or doctrine, but an activity that seeks to elucidate thought (4.112) and critique language: “The limits of my language mean the limits of my world” (5.6).^D

Wittgenstein’s *PI* were published posthumously in 1953. The first part comprises 693 numbered paragraphs, and was prepared for publication in 1946. The second part was added subsequently by the book’s editors, with the title *Philosophy of psychology: a fragment*. The first part once more presents the therapeutic function of philosophy in relation with language, truth, thought, and intentionality. Here, against his own position in the *TLP*, Wittgenstein critiques the interpretation of language as representation, and offers a new way of understanding it, as a function of its use. “The meaning of a word is its use in the language” (§43).^E A word may have numerous uses, like the items in a toolbox. The meaning of a word depends on the *language-game* in which it is used. There are innumerable language games (eg, creating a story, telling a joke, or translating), each of which is part of what Wittgenstein calls a form of life (*Lebensform*). “To imagine a language means to imagine a form of life”

(§19).^F The different possible uses of a given word are not linked by a generality, but by a “family resemblance.” The use of a word in a language-game is regulated by a rule, which is not something abstract but rather an activity, a grammar, shared by a community of speakers (who have in common a form of life). Each grammar expresses not a deep logical structure of the language, but the form of life shared by its speakers. Misunderstandings in the use of language occur, for instance, when we talk of the spirit (*Geist*), spiritual (or psychological) activities (§308), and private sensations (eg, “I am in pain”). It is impossible for there to be a private language.

With respect to philosophy, Wittgenstein no longer considers it to be modelled after the natural sciences, now rejecting the hypothetical, generality, and dogmatism. There is not a single philosophical method, but rather the application of different therapies (§133), indicating in each case how to “show the fly the way out of the fly-bottle” (§309).^G

Wittgenstein’s thought evolved from logic, language, and representation (we may call this the mind) to the pre-rational and pre-linguistic conditions of our way of acting in the world (the body, instinct, the animal condition of human beings). In parallel, we may also point to an evolution from (logical or grammatical) structure to action. For D. Moyal-Sharrock, Wittgenstein’s main contribution was “to have revived the animal in us: the animal that is there in every fiber of our human being, and therefore also in our thinking and reasoning.”³⁶ This, then, would definitively be the mystical, as suggested by Isidoro Reguera.³⁵

Wittgenstein’s conception of psychic activity (including memory) is found in his second period, and above all in the period referred to by D. Moyal-Sharrock and others as the “third Wittgenstein,” in his *Remarks on the philosophy of psychology* and *On certainty*. (We should remember that during his lifetime, Wittgenstein only published the *TLP*, and much of what was published posthumously

^AWittgenstein L. *Tractatus logico-philosophicus*. London: Kegan Paul, Trench, Trubner & Co.; 1922. p. 25.

^B*Ibid.* p. 90.

^C*Ibid.* p. 89.

^D*Ibid.* p. 105.

^EWittgenstein L. *Philosophical investigations*. Anscombe GEM, tr. New York: Basil Blackwell & Mott, Ltd.; 1953. p. 20.

^F*Ibid.* p. 8.

^G*Ibid.* p. 103.

corresponds to notes and transcriptions of conversations and classes). In the context of internal debates in psychology in the second half of the 20th century, various different interpretations of Wittgenstein's thought have supported connectionist and enactivist positions (based on neural networks, and on the body in the world, respectively), against the dominant theory of cognitivism^{37,38}; they even anticipate some findings from more recent research in cognitive neuroscience.³⁹

Precisely, the vindication of Wittgenstein in these critiques of psychological cognitivism, emerging several decades ago, shed light on the Austrian philosopher's discussions of memory.

Classical cognitivism (eg, that represented by J. Fodor [1935-2017]) considers two levels of analysis of mental processes: 1) an intentional level, that of everyday psychology, which involves beliefs, memories, desires, and other intentional states ("propositional attitudes," in Fodor's terminology); and 2) a computational level, the internal program, which in turn involves a third, underlying physical level (hardware). A demonstrable correlation exists between these levels. It is this essentially Cartesian dualism that, according to its critics, Wittgenstein opposed *avant la lettre*. As noted by D.G. Stern, speaking of "states of mind" and "traces in the brain" leads us to assume naturally that there is "something stored in the brain that corresponds to our past experiences."³⁷

Defenders of enactivist positions have also, like a paradigm shift, adopted Wittgensteinian interpretations of many phenomena generally associated with procedural memory and even declarative memory, in terms of capacities or abilities acquired by the individual.³⁸ For Wittgenstein, episodic or autobiographical memory is not a store of recordings, traces, or engrams, written in the brain, and procedural memory is not even memory, but a set of capacities acquired by the body. There is nothing in the nervous system that corresponds precisely to a particular memory; rather, the set of all our activity, which incorporates the experience of previous activities, has some (incommensurable, non-linear) relationship with the function and structure of the nervous system.^{38,40}

In *On certainty*, Wittgenstein talks about hinge propositions (*Angelsätze*), basic, unjustifiable, non-cognitive beliefs that support our conscious cognitive activities, in the same way as a hinge supports the movement of

a door. These hinges, as "natural, instinctive, or animal-like" certainties, may also be acquired (for instance, natural language) and framed within what we call autobiographical memory or semantic memory. Nothing resembling memory is involved in what Wittgenstein calls "linguistic certainties" (such as the correct use of the notion of the colour red). With respect to autobiographical certainties, it is rather in pathological conditions that they appear to manifest as "memory."³⁸

Martin Heidegger: at the margins of philosophy and science

If it feels rash to "introduce" the thought of the previous two thinkers in a few paragraphs, then in the case of Heidegger, such an attempt may be downright "pernicious," in the words of his most distinguished disciple Gadamer (1900-2002).⁴¹ Nonetheless, Heidegger's thought represents a considerable part of the noetic (intellectual) framework in which this series of articles was developed, and will be present, explicitly or implicitly, in all of them. Here, let us make only a few brief, introductory points. Martin Heidegger was born in 1889 in Baden, Germany. After fighting in the First World War, although not on the front line, he became a philosophy lecturer in Freiburg, where he worked as an assistant to Husserl. In 1923, he moved to Marburg, where he wrote *Being and time* (1927), his first fundamental text, which had an immediate impact on the philosophical perspectives of the day. In 1928, he returned to Freiburg, where he succeeded Husserl as chair; after being elected rector of the university, he gave a speech to inaugurate the 1933 academic year that has weighed on the conscience of his followers ever since. Despite the fact that he only served as rector for 10 months, his brief ideological link to Nazism (until 1936), which became even more evident after the publication of his *Black notebooks* (notes from that period) in 2014, led to his being forbidden from teaching after the end of the war, from 1944 to 1951. We should stress that, as observed in these notes and the rest of his oeuvre, Heidegger's ambiguous relationship with National Socialism did not at any time involve acceptance of the biologism or racism of the Nazi regime. As noted recently by Gianni Vattimo (1936-2023), it is regrettable that, in those times marked by radicalism, political activism, and the search for "authenticity," Heidegger should so badly misjudge which party to join.⁴²

The thought of Heidegger, his "way to thinking,"⁴³ is immense; this is partly because, even after creating a whole

series of novel concepts, an original way of thinking about human life and the world, he did this by returning to the main milestones in Western philosophy.⁴⁴ Similarly, the subsequent projection of his thought in contemporary (mainly continental) philosophy is immeasurable. This influence is somewhat reminiscent, in a field not too far distant from the interests of the German philosopher (that of poetry), of the interpretative and creative influence of Bob Dylan on contemporary popular music. How many songs “remind us” of Bob Dylan, whether or not they were written by him? And how many philosophies of the last 80 years also remind us of Heidegger? We shall attempt here to briefly introduce certain key concepts in Heidegger’s thought, before addressing his particular approach to memory.

For Heidegger, the primary task of philosophy focuses on the problem of being, understood not as the sum of things (beings), but existence itself (the “ontological difference” between Being [*Sein*] and beings [entities]), which, for some scholars, is identified with the meaning of that existence.^{45,46} “Why are there beings at all instead of nothing?,” he asks in his *Introduction to metaphysics*.^{47(p1)} This, for Heidegger, is the problem that was forgotten by metaphysics in the history of the West (“the forgetting of Being”), which since Kant had given rise to the development of the modern science. Science concerns itself with knowledge and (technological-scientific) mastery of beings in specific domains of reality, “and nothing besides.”^{48(p95)} However, life, human existence, which Heidegger includes in his concept *Dasein* (“there-Being”), the human in the world (“Being-in-the-world”), is essentially open to Being. “The ‘essence’ of *Dasein* lies in its existence.”^{49(p67)} The analysis of *Dasein* (the existential analytic) reveals the structure of the Being-in-the-world; the world as an equipmental totality of meanings or “instructions” of things; *Dasein* as understanding (*Verstehen*) and care (*Sorge*), shared in coexistence with others (*Mitsein*, “Being-with”), engaged in an open project (*Entwurf*); and finally, *Dasein* as a disposition (*Befindlichkeit*), with a special role played by dread (*Angst*) of nothingness, as a pre-understanding of the world that eludes human beings ourselves. The root of all these structures of *Dasein* is its *Geworfenheit* (“thrownness,” being thrown into the world), the facticity and the finitude of existence. It is this anticipation of finitude, the acceptance of death as an inescapable possibility, that confers *Dasein* its history or essential temporality (*Zeitlichkeit*). Temporality is the meaning of *Dasein*’s being.



Figure 3. Martin Heidegger with the poet René Char (1966). Despite the diverging paths of their lives (Char had fought for the Resistance during the Second World War), the two remained close friends and shared a common interest in poetic language as an instrument and place of revelation of human existence (source: <https://twitter.com/rebeca6169/status/1272154816186368000/photo/1>).

After his *Kehre* (turn) in the 1930s, during which Heidegger wrote fundamental texts on truth, art, poetry, and language, he reformulated the relationship between human life, the world, and Being (Figure 3); the *Letter on humanism* (1947) is often cited as a reference text on the “second Heidegger.” A key term that now appears in association with *Dasein* is “ek-sistence”; this singular form of existence proper to human beings is designated as an event (*Ereignis*) of Being. In *Ereignis*, the classical subject/object relationship (from Descartes to Hegel, by way of Kant) disappears and is replaced by a reciprocal appropriation of human and Being (*eigen* = *own*). In this appropriative event (*Ereignis*), language plays a key role.

(For a “friendly” introduction to Heidegger’s thought, see Duque⁵⁰ and Vattimo⁵¹).

[...] man is not only a living creature who possesses language along with other capacities. Rather, language is the house of Being in which man ek-sists by dwelling, in that he belongs to the truth of Being, guarding it.^{52(p213)}

Despite the fundamental role of temporality in *Dasein*’s existential structure (*Zeitlichkeit*, the temporality specific to *Dasein*), and despite the constant reflection on the “forgetting of Being” in relation with the problem of Being, memory is explicitly addressed on few occasions in Heidegger’s oeuvre. We may draw a suggestive comparison with Bergson, in whose thought the concepts “life” and “memory” are as fundamental as they are in Heidegger; however, the French philosopher always addresses them explicitly, in the foreground, so to speak.⁴

In 1921, during his first period in Freiburg, Heidegger gave a course on “Augustine and neoplatonism,” focusing on Book X of the *Confessions*. As noted in the first article of this series,³ this was where Augustine presented his own experience and interpretation of memory. For Augustine, memory was a treasure of innumerable images left behind by the senses, over the course of a lifetime (episodic memory, in today’s terminology), which “that great harbour of the memory receive[s] in her numberless secret and inexpressible windings.”⁵³ Memory is also where “[I meet] with myself, and recall myself, and when, where, and what I have done” (autobiographical memory), and the store of “all, learnt of the liberal sciences and as yet unforgotten” (semantic memory).⁵³ It is memory of the past that allows me to recognise the present (and my current self), and to await the future. Personal memory is immeasurable, infinite, eternal, like the forms of the intelligible world of the platonists and neoplatonists, the domain of the soul. In Heidegger, this infiniteness of the soul is set against the facticity of life, the factual, finite human life with which he began developing his theory, culminating years later with the existential analytic of *Dasein* in *Being and time* (1927).⁵⁴

In the second part of *Being and time*, Heidegger reflects on memory, taking a somewhat indirect approach, addressing the temporality of *Dasein*, the temporal structure of one of its essential categories (*Existenzial*), care (*Sorge*). “*Dasein* is an entity for which, in its Being, that Being is an issue.”^{49(p236)} This structure, which runs through and unifies the “epic extension” (*Streckung*) of

the existence of *Dasein*, from birth to death, is manifested dynamically in three temporal “ecstases,” in which questions are raised about the existence of the human being for himself:

1. The future, not the series of instants that are yet to be, but the horizon of intentions, objectives, and hopes in which life is situated as a project.
2. The present, into which we always “fall” (*Verfallen*), defined not by a chronological instant but by a situation made up of concerns, needs, demands, obstacles, and opportunities.
3. The past, the disposition (*Befindlichkeit*) to that which has been, which reveals a mood (*Stimmung*), the best approach to our pre-reflective existence, our “thrownness” into the world (*Geworfenheit*).

An essential issue derived from the existential analytic of the *Dasein* in *Being and time*, and which is present throughout Heidegger’s later work, is that of authentic (proper) and inauthentic (improper) existence. The fall (*Verfallen*) of *Dasein* into everyday, common life (a term with no moral connotation) determines its “not-Being-itself.” The authenticity (*Eigentlichkeit*) of *Dasein*, on the contrary, is characterised by appropriation of itself, of its own project (“its most proper possibility”), and by opening to the world, to things, as part of this project, to true knowledge and the responsibility that all this implies.⁵¹ Particularly in the “second Heidegger,” the authenticity/inauthenticity of *Dasein* is closely linked to the question of technology.⁵⁵ For Heidegger, each of the temporal ecstases described above has an authentic and an inauthentic way of being. We can either allow circumstances simply to present themselves, passively (*Gewärtigen*), or we can decisively live the moment (*Augenblick*), projecting ourselves towards the future, anticipating it (*Gegenwärtigen*). The inauthentic form of having been is forgetting (*Vergessenheit*), whereas the authentic form is repetition or recovery (*Wiederholung*), reappropriation of what one has been, our “most proper Being.” The existential concept of memory involves, then, the recovery of oneself from a forgotten past: “remembering is possible only on the basis of forgetting, *not vice versa*.”⁵⁶

In the final sections of *Kant and the problem of metaphysics* (1929), Heidegger returns to the role of the analytic of *Dasein*, of its finiteness, in the foundation of metaphysics. In that work, he writes that the “fundamental-ontological act of the metaphysics of *Dasein* is, therefore, a

remembering (*Wiedererinnerung*),” adding that: “true remembrance must always interiorise what is remembered, ie, let it come closer and closer in its most intrinsic possibility.”⁵⁷

Conclusions

Our three guests in this article place the human being in front of his fundamental, existential, biological (or zoetic and biotic³) reality: that which is instinctual, whether desire (Freud), language (Wittgenstein), or the finiteness of existence (Heidegger). When it is pathological or inauthentic, this reality is met with a therapeutic attitude and methodology (Freud, Wittgenstein) or a resolute choice of authenticity in personal and collective life (Heidegger). Whereas in Freud we find a theoretical model of memory (at the service of a therapeutic practice, psychoanalysis), Wittgenstein takes a critical attitude to the radical difference between the everyday, conventional use of the concepts of recall and memory (the realm of grammar) and, on the one hand, the associated natural and physiological processes (the realm of science), and on the other, their analysis through abstract mental or psychic concepts (the realm of “bad philosophy”). Science is met with silence, and bad philosophy with its own therapy, based on the correct use of words. Finally, Heidegger’s conception of memory, and recall, similarly to that of Bergson,⁴ is a constituent element of the existential unity of human life, both singular and collective.

Conflicts of interest

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