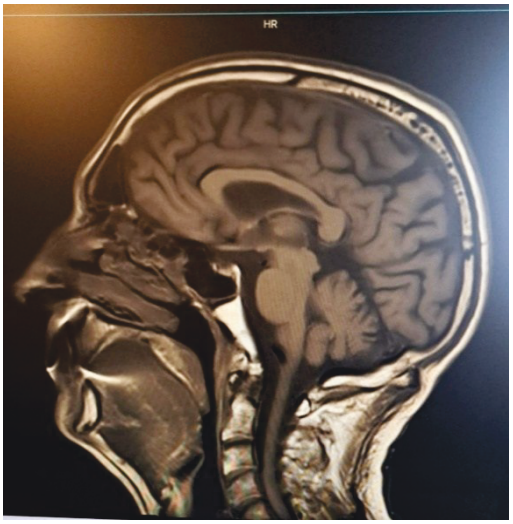
ALZHEIMER'S

BACK TO THE PRESENT



AURELIO VALERIO XXI

6th edition

CONCEPT

¿REVERSAL?

PREVENTION

SYNTHETIC THEORY OF NEURONAL DYSFUNCTIONS



GLOBAL EDITION

Hobbies: chess, pedal and philosophy among others

Aurelio Valerio XXI is one of the main authors of Molwick Publishers' books.

Over more than two decades, Molwick's books have received more than 40 million visitors and exceeded two million PDF downloads, making him one of the most widely read scientific essayists in Spanish in the new millennium.

During the most dynamic years of the early web, there were more than 10,000 external links pointing to Molwick's website (data verifiable via the Wayback Machine). These links originated from universities, academic projects, teachers' blogs, educational specialists, and science communicators. In many cases, they appeared alongside references to Wikipedia or National Geographic pages, reflecting the diversity of contexts in which his work was cited.

Molwick´s earlier works include the Global Cognitive Theory, published in five languages and focused on the functional foundations of human thought. This body of work forms part of the editor's historical corpus and will be updated within his current conceptual framework.

Today, Aurelio Valerio XXI has developed the Synthetic Theory of Neuronal Dysfunctions, a functional and human-centered approach to Alzheimer's disease, vascular dementia, frontotemporal dementia, and Parkinson's disease, aimed at unde rstanding brain alterations from an integrative perspective.

♦

The only antidote for the egocentrism
of pure reason is Love.

CREDITS

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CAVEAT

It is essential to note that, while this hypothesis is compelling, it remains pending controlled trials and further **studies**. However, implementing present-moment focus does not appear to pose any inherent risk of harm and coincides with standard recommendations.

Pyramidal Model of Alzheimer's Causality

This proposal describes the underlying causes of recent memory difficulties and offers a perspective beyond conventional explanations. Just as a sedentary lifestyle—such as spending the whole day on the couch—can lead to arteriosclerosis in the medium or long term, Alzheimer's is presented here through a three-level model:

1. Preliminary Stage (Error of Conduct)

- **Excessive focus on the past** (cognitive overload of short-term memory). If the denaturalization of the relationship between short- and long-term memories is corrected, progression to the next phase will likely not occur.
- Disconnection from the current environment (prolonged **daydreaming, excessive consumption of non-current content**).
- Inappropriate use of cognitive capacities (chronic and maladaptive use of mental resources) that leads to physiological dysfunctions.

2. Possible diagnoses of Alzheimer's.

The behavioral core manifests through patterns that prevent the consolidation of recent information. This persistent cognitive disruption favors the progressive increase of physiological dysfunctions.
This second level corresponds to the traditional clinical classification of Alzheimer's, understood here because of the hidden prior behavioral disease.

3. Amyloid Advanced Alzheimer's (severe physiological disease)

- Neurochemical alterations.
- Inflammatory processes.
- Metabolic dysfunctions

Potential for Reversal (returning to the present)

Conduct that aligns with the functional nature of the Global Memory System may constitute a highly effective preventive measure. Furthermore, the new theory suggests the potential for a slow reversal of the condition in cases that are not very advanced.

* * *

ALZHEIMER'S
"BACK TO THE PRESENT"

COMMON CONCEPT AND GENERAL DOCTRINE

The loss of **short-term memory**. The cause of the initial stages is unknown. Only accelerators and brakes for its progress are known; its reversal is unknown.

In advanced cases, it can affect other mental abilities, such as language and medium- to long-term memory.

During regular brain activity, byproducts such as protein fragments are generated and subsequently cleared by natural processes. When they are not removed—because deposition exceeds elimination—these residues, or beta-amyloid peptides (Aβ), lead to the degeneration of neurons.

Strong correlation with age.

It is considered an incurable disease, and there are no treatments capable of stopping its progression, aside from small advances in medicine and the previously mentioned accelerators and brakes.

OUR PERCEPTION

The loss of **recent memory** is not the same as short-term memory (STM). It would be **working memory, short-term memory, and part of medium-term memory.**

The problem arises from the brain's normal functioning. When it thinks too much about the past or too little about the present, it operates differently depending on whether it is processing the present or the past. In other words, normal memory function is designed with different capacities for the present and the past.

It's not just about thinking about the past; it also involves considering topics unrelated to the present, such as spending a lot of time watching movies or series or reading extensively about subjects not related to the present, because they add information to an **already saturated short-term memory**.

Strictly speaking, this would be the fundamental cause of the so-called "disease" of **Alzheimer's, or the improper use of normal cognitive functions.**

The good news is that returning to living in the present may be a powerful prevention for Alzheimer's and even a total reversal if it's not too advanced.

Only time will tell. We must wait for controlled trials and studies. But trying it now doesn't seem likely to cause any harm. See the section on Scientific Support and Evidence.

Note 1: The image is decorative and does not represent Alzheimer's.

IMPORTANT NOTE-2

This is not a scientific article in the generally accepted sense. However, given the topic's relevance and potential for simple prevention, I have decided to write about it. Well, it **doesn't cost anything,** and I do not believe that trying its recommendations could do any harm if the primary symptoms of this severe and widespread "disease" are detected.

NOTE 2: This essay includes a section devoted exclusively to its scientific evidence, which discusses, among other aspects, real-world experiences and the strong statistical correlation between the state of Alzheimer's disease and the variables accepted in widely recognized studies—all of which are strongly correlated with "thinking about the past."

In any case, this is not a scientific article in the generally accepted sense. However, given the importance of the subject, my experience, and the potential for simple prevention, I decided to write about it, as I do not believe there is any harm in trying its recommendations if early symptoms of this severe and widespread "disease" are detected.

NOTE 3: Annex 3 discusses the **syndrome of excessive daydreaming** (or *maladaptive daydreaming*, in English), a psychological phenomenon characterized by excessive and highly vivid fantasy activity, to the point of significantly interfering with a person's daily life. Unlike occasional daydreaming, which is normal and healthy, this condition becomes a compulsive form of escape and, in that sense, bears a certain resemblance to Alzheimer's disease.

What is interesting is that it is reversible.

NOTE 4: Annex 4 also presents the conclusions of an **independent essay on a hypothetical conceptual framework**, based on the same functional principle, aimed at understanding the differential vulnerability of brain circuits in the major neurodegenerative diseases: **Alzheimer's disease, frontotemporal dementia (FTD), Parkinson's disease, and dementia with Lewy bodies (DLB).**

NOTE 5: Annex 5 summarizes the conclusions of the trilogy's final work on brain diseases, Vascular Dementia: The Threshold of the Invisible, integrating vascular dementia under the same principle that defines the unified functional framework.

DIMENSION OF MEMORY

WORKING MEMORY

SHORT-TERM MEMORY



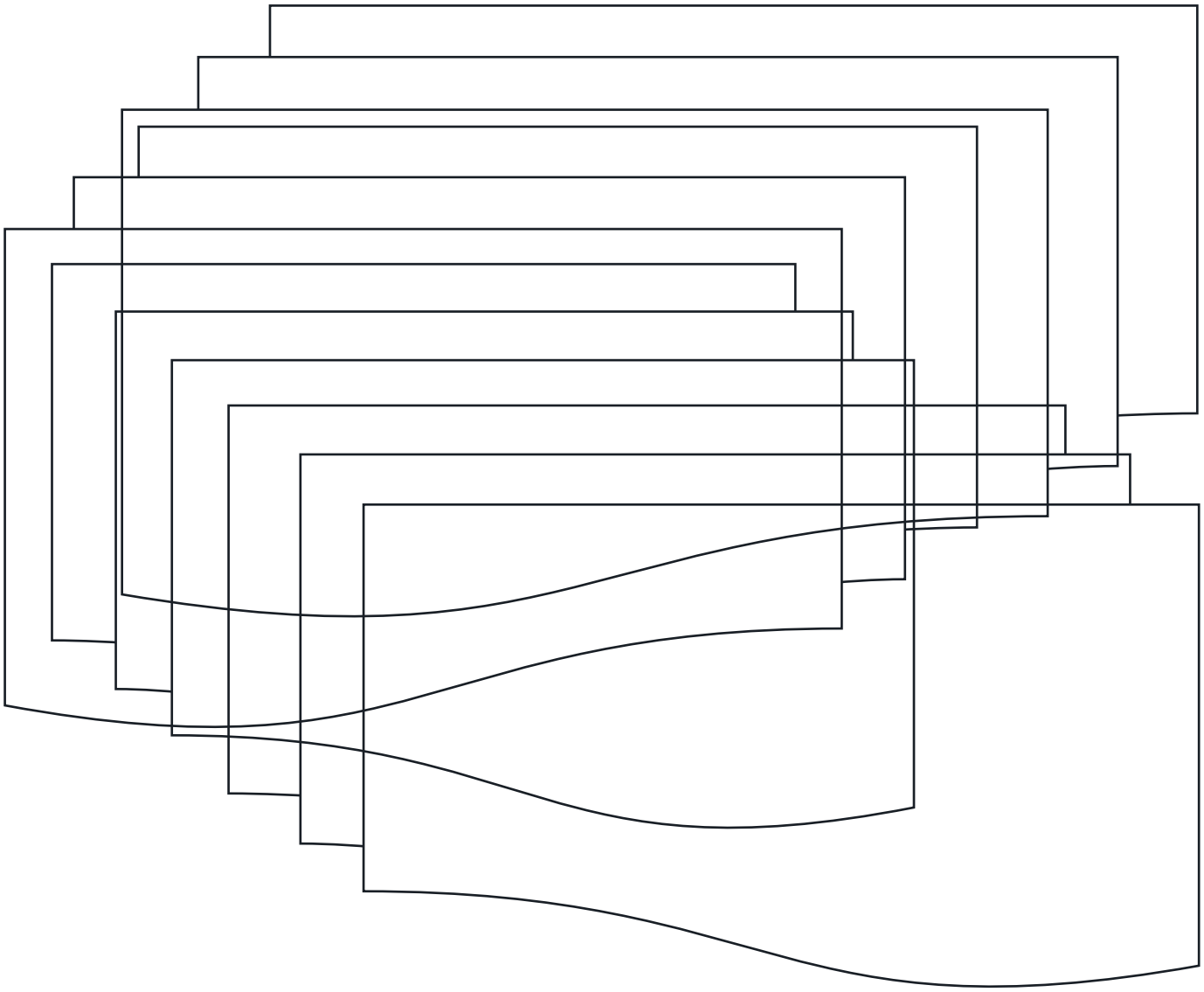
SPECIALIZED MEMORIES (LANGUAGES, DRIVING, etc.)



MEDIUM-TERM MEMORY



LONG-TERM MEMORY



THE GLOBAL MEMORY SYSTEM

The following is a brief overview of the Global Memory System (GMS) to help explain its complexity, automation, and the consequences of improper use.

MEMORY TYPE	MAIN FUNCTION	ESTIMATED CAPACITY	DENSITY	COMPUTER ANALOGY
WM Working Memory	Events -To do. -Recently Links to ideas: -Combination -Brain deduct.	2–5 elements (up to 20)	Minimal	Stack: -Actions -Calls to functions
STM Short-Term Memory	Frequently used information.	High = 1 for comparison	No compression.	RAM
MTM-G Medium-Term Memory General	Valuable memories are made through use over time.	10 - 100	Medium compression	SSD
MTM-S Special Memory	Specific topics: music, driving, …	100 - 500	Compression: Specific algorithms.	SSD Expert Software
LTM Long-Term Memory	Consolidated memories.	1000 - 50,000	High density with degradation.	Hard disk with creativity

This architecture provides an understanding of the origin, function, and evolution of memory, as well as a theoretical basis for designing self-observation tools to prevent memory deterioration.

I do not consider myself an expert in neurology. However, 20 years ago, I wrote several books focused on cognitive abilities, including "The Brain and Modern Computers," as well as others on intelligence, memory, willpower, and a statistical study on the evolution of intelligence. Let's say they are intuitive ideas.

The **Global Memory System (GMS)** is a modular architecture that organizes memories by frequency of use, duration, subject matter, and level of compression.

To get a simple idea of the size and functions of the main parts of the SGM, two intuitive comparisons can be used.

The first:

- A small paper note (MT), a pen drive (MCP), and a hard drive with compressed information (MLP).

The second:

- Working memory (MT): a yellow Post-it with pending tasks, where completed ones are crossed out.
- Short-term memory (MCP): a general-purpose notebook.
- Medium-term and special memories (MMP+ME): a few books dedicated to specific topics.
- Long-term memory (MLP): the extensive library made up of encyclopedias and volumes printed in tiny letters to save space.

From these images, we can move toward a more precise explanation of the theory, without aiming for absolute perfection.

Each type of memory has its own manager that decides whether to maintain, transfer, or degrade it.

- **Working Memory (WM)**

  It operates in real time, managing between 2 and 5 active elements, such as upcoming and recently completed tasks, or recently seen details or numbers. In exceptional cases, it could retain a 20-digit sequence.

  It also serves to organize calls to "functions" or specific contents of the STM, providing temporary storage for ideas and data to facilitate deductions or conclusions; in other words, it supports the common thread of thought.

  It obtains information by demand and automatically from Short-Term Memory (STM), and it returns deductions or conclusions.

In computer languages, it is used for several purposes, such as storing temporary data and managing function calls (by saving return addresses and local variables).

- **Short-Term Memory (STM)**

  It stores frequently used information without compression. Its capacity is high, and we will set it equal to "1" relative to medium-term, special, and long-term memory.

  Information retrieval is instantaneous, and when more details are requested, **it searches for medium-term memory, reinforcing and reconstructing the content as needed**.

  If a memory is repeated, it will be transferred to the medium-term memory (MTM) depending on its frequency, importance, and timing.

- **Medium-Term Memory (MTM)**

  It is divided into two branches:

  - **General (MTM-G):** receives information from the STM and sends it to the special memories (…) or performs a first generic compression

    Depending on the frequency of requests from the STM and the passage of time, it will either discard the information or pass it to Long-Term Memory (LTM).

    This memory could hold 10 to 100 times as much information as the STM, albeit in a compressed form.

  - **Special (MTM-S):** is dedicated to specific skills such as languages, driving, street maps, music, or technical subjects.

    Its structure is more specialized and adaptive, with specific compression algorithms.

    The capacity of all special memories will surely be quite superior to that of MM-G. For example, the mother tongue alone can encompass 5,000, 10,000, or more words.

    Usually, a portion of this special content will be in the STM, and, as we have commented, when the STM needs more details, it resorts to the MTM-S.

- **Long-Term Memory (LTM)**

  It receives consolidated memories from the MTM-G. The compression is so complex that it can reconstruct memories with loss of detail and with elements from other events. If they are not retrieved for long periods, these memories progressively degrade.

  Its capacity is impressive, allowing one to recall an infinite number of moments from childhood to the present.

PRELIMINARY ANALYSIS OF PROBLEM'S RECENT MEMORY 👈

A first aspect to highlight is that there are memory problems unrelated to Alzheimer's. In turn, its early stages or conduct errors do not always lead to Alzheimer's if life conditions change.

CAUSES OF MEMORY FAILURE (**NOT JUST ALZHEIMER'S**)

As a first approximation, we could say:

- 50% - BAD USE OF THE GLOBAL MEMORY SYSTEM.
  - ✓ **They do not cause Alzheimer's disease.**

    Several factors contribute to inefficient use of this system and produce the same visible symptoms in the short term, or for as long as they persist. However, they do not lead to Alzheimer's in the medium or long term, since they do not affect long-term memory.

    Some of these factors also indirectly influence memory in general by affecting overall health.

    Among the most important are:

    - **Chronic lack of sleep**.
      It causes poor short-term memory functioning—such as forgetfulness, memory lapses, and confusion about past events—but it does not cause Alzheimer's disease.
    - **Stress**.
      Living in two or three "presents" at once is not healthy when it becomes habitual. Trying to expand the present overloads short-term memory, leading to chronic stress.

      Its visible effects are very similar to those of sleep deprivation and excessive reflection on the past, but it does not cause Alzheimer's.
    - **Alcohol and drug abuse.**
      These have a substantial impact on short-term memory and, in cases of prolonged heavy use, produce effects throughout the brain and body, different from those of Alzheimer's disease.
    - **Obsession.**

      Depending on the type of obsession, it may or may not affect long-term memory.

If it involves recurring thoughts about the past, it could potentially trigger Alzheimer's disease.

As we can imagine, these situations or behaviors greatly complicate the prevention or the early detection of Alzheimer's disease.

A second relevant factor in the difficulty of early detection is that the real cause of Alzheimer's, "the overuse of thinking about the past", is not constant. That is, it may occur for a period and then resolve, so even if early signs or symptoms are present, the disease may not progress to its second stage, where it can be clearly diagnosed.

✓ **Primary or sole cause of Alzheimer's disease: the overuse of thinking about the past.**

At its core, this is not a disease but rather a harmful lifelong misuse of memory. The debate over the term "disease" could be compared to someone spending the entire day lying on the living-room couch and, at a certain age, calling it "arteriosclerosis."

The direct consequences are the saturation of short-term memory and the production of beta-amyloid peptides (Aβ) in quantities that exceed the body's ability to clear, due to continuous changes in long-term memory.

It must be acknowledged that thinking about the past—and a certain degree of social isolation—becomes more common with age.

The brain is designed for a single present, not for being constantly in another world. (See the annex on the daydreaming disorder.)

A related issue that may contribute to the onset of Alzheimer's is that **new technology** is making us wait a bit for some of its responses. In this way, our brain becomes accustomed to thinking about something different from what we are doing, which makes us a bit more absent-minded and desensitizes the function of **working memory**.

Another effect is the one carried out with good intentions by **technological companies, which facilitate and encourage reflection on the past** by offering memories and photos to most of the population every day. The problem is not so much looking at a photo for a few seconds as the brain storing it and thinking about it, consciously or unconsciously, for an undetermined time. Indeed, if one already tends to dwell excessively on the past, this practice by tech companies does not help.

- 50% - HEALTH.

  Combination of **viruses** 5%

  If there is any suspicion, it's best to remove the exposure.

  Brain imbalances and oxygen deprivation.

  Lack of sleep 15%

  Blood circulation and hypertension 10%

  Diet 5%

  Exercise 5%

  Drug abuse 10%: In extreme cases, memory problems can be very significant.

TERMINOLOGICAL CLARIFICATIONS.

Having precise concepts is essential for understanding complex systems. For this reason, it's helpful to present a few key terms and illustrative examples.

- **Distinction between disease and effects**

  Various conditions can lead to memory problems, such as specific strokes and cerebral micro strokes, traumatic brain injuries, viral infections, or severe intoxications.

  Sometimes these coincide with the primary or even sole cause of Alzheimer's. They're easier to identify because they tend to occur suddenly, but they can still be confusing when the effects are mild or delayed.

  In the initial stage, there is also a great diversity of symptoms and aspects that may be due to problems that, by themselves, do not cause Alzheimer's, such as lack of sleep, stress, or age itself.

  The most damaging confusion is the **Soul's Excuses** (a poetic way of referring to the ego), which consists of attributing minor effects of Alzheimer's to other causes, commonly to age, given the current culture.

- **The different stages of Alzheimer's add further complexity**

  One could argue that Alzheimer's encompasses at least two distinct conditions or sets of problems, each with different causes, accelerators, inhibitors, and effects. In later stages, these factors may accumulate.

  Likewise, the speed of Alzheimer's development can fluctuate depending on quantitative variations in its primary cause and accelerators and brakes, which adds even more bewilderment.

  In the second stage, if the problems persist, they would be added to **an additional cause** due to the physical deterioration that has been accumulating in the brain because of the previous incipient Alzheimer's.

- **Reversal of cause and effect and feedback.**

  Alzheimer's unfolds through feedback loops over time. Since the initial stage is nearly undetectable, it's often assumed that constantly talking about the past is a symptom of Alzheimer's. And it is. But people talk about the past because **they've previously overindulged in thinking about it.**

  It's crucial to emphasize that this **excessive misuse** is the TRUE INITIAL CAUSE of Alzheimer's, as it alters the Global Memory System (GMS). It is not only because long-term memory (LTM) is much larger than short-term memory (STM) and thus

saturates it, but also because tampering with LTM leads to excessive modification, as we will see later. The saturation effect is even more pronounced in the functioning of working memory (WM), which feeds directly into STM.

Another factor that surely feeds back is lack of sleep.

Both stress and Alzheimer's cause **sleep disorders**. It would not be surprising if, with short-term memory (STM) saturated, it cannot be cleaned, since its automatism considers everything essential and, consequently, does not require sleep to perform the cleanup.

The content of saturated memory will behave the same way if it is not sufficiently ordered to be transferred to long-term memory (LTM) or to specialized memory.

- **Distinction between the real cause and indirect accelerators and brakes**
  - **Ambivalent events.**

    This characteristic is not fully considered in the current culture surrounding Alzheimer's because it does not account for the physiological effects of thinking about the past.

    Reading and memory exercises are helpful, though with certain reservations. If they do not enhance social interaction, they may overload short-term memory, which is already saturated.

    This adverse effect could be more pronounced if the readings and exercises were related to elements of LTM.

    Conversely, when the Global Memory System is functioning correctly, the effect serves as a natural complement.

    Even **social relationships** can turn negative if meetings predominantly focus on past topics. Even **nutrition** can be ambivalent

  - **Indirect breaks**

    Social relationships, pets, and similar activities usually reduce the time spent dwelling on the past—or more accurately, not engaging with the present in a broad sense.

    Moreover, short-term memory will be activated because the information is suitable for use soon.

    Physical exercise improves blood flow and gently forces present-moment awareness—what exercises are being done, how long they last, whether they're done with others, etc.

- **Indirect accelerators**

  Some of these accelerators **may indeed appear to be causes** of Alzheimer's; **however, the real cause acts invisibly**. One example of an accelerator is the loss of a loved one, which in some cases precipitates Alzheimer's disease. This effect arises from **an escape from the present** aimed at recalling the beloved person, which constitutes the only real cause of Alzheimer's.

  Poor blood circulation reduces the oxygen supply to the brain and naturally accelerates the progression of any disease or dysfunction.

  Age is a classic example. Aging brings many accelerators: poor circulation, reduced mental acuity, fewer social interactions, less physical activity, and more issues stemming from a poor diet.

  Nevertheless, **age alone does not cause Alzheimer's by itself**.

  On the other hand, age has a pernicious effect: many early symptoms of Alzheimer's emerge with age and **prevent people from taking care of themselves** or recognizing that these isolated symptoms—when numerous—have nothing to do with aging.

  The sheer number of **Excuses born of the soul,** like age, we use to avoid concern, could fill a book on the theory and practice in this field. Excess of Excuses born of the soul **becomes the first indicator of possible Alzheimer's at a previous stage.**

  Stress is another—and perhaps the most potent—indirect accelerator. On its own, it can significantly destabilize short-term memory (STM). If it is already overloaded, the effect is so striking that it serves as a clear warning that something serious is happening.

  If stress becomes chronic, it may affect the entire Global Memory System, making recovery extremely difficult—even after the stress subsides. And all this occurs without the real cause—the initial or subsequent saturation of STM—being visible.

  If combined with intermediate or advanced Alzheimer's, it could more appropriately be called dementia.

  Of course, the actual cause will always have remained hidden. *Thought is free and invisible, but it can have consequences.*

COMPLEXITY AND CURE OF THE DISEASE

Being a "brain disease with stages" and being multidisciplinary (geriatrics, neurology, psychology, sociology, etc.) greatly hinders its understanding and possible solutions.

In fact, **the cause is confused with the consequence**. As is well known, with Alzheimer's disease, one forgets the present and repeats old events with precision and insistence. However, as we pointed out when discussing the concept, the cause could be thinking too little about the present, to the extent that the past becomes the present for that person, and the actual present loses relevance.

When I asked GEMINI if thinking about the past could be the leading cause of Alzheimer's, it answered that there was no scientific evidence for it. However, to prevent its progression, it recommends maintaining social relationships and having pets, which, in practice, means **living in the present!** For more details, see the SCIENTIFIC SUPPORT AND EVIDENCE section**.**

People who live alone are more likely to develop the disease. It seems logical that an older adult who lives alone thinks more about the past than others do and, as a result, watches more movies and documentaries. This tendency is more pronounced when they have lost loved ones over many years. On occasion, the loss of children of a certain age can be a cause of **early-onset Alzheimer's**.

This effect of not thinking about the present is like what happens to short-term memory when we go on **vacation**; upon our return, we often forget the computer passwords we used at work. We could include many similar examples, even involving other types of memory.

To grasp the scope of this cause, **it's enough to ask people with early-stage Alzheimer's whether they spend much time thinking about the past**—their answers alone can be pretty revealing.

They may not be able to quantify it precisely because when the brain is immersed in the past, the future, or in mental time travel, **its internal clock isn't functioning.** In general, we're unaware of just how much time we spend not thinking in the present. When we are watching a movie or a soccer match, we often check the clock repeatedly to see how much time is left until the end, and we usually feel we don't have a clear sense of how much time is left.

A REAL SYMPTOM THAT CAUSES CONFUSION

It is known that people with Alzheimer's produce a residue of molecules in the brain, which is understood to be the cause of the poor functioning of neurons.

However, Alzheimer's could be a **consequence of the normal functioning of the brain**. Logically, memory is based on a material foundation—molecules, proteins, and other components. The creation of this material will include an **encryption reference vector** or configuration that enables later decryption. This vector evolves as our understanding of complex reality and its components changes with age.

Furthermore, if the updates are numerous, a similar situation will arise, much like the multiple password changes that have occurred with new technologies (now requiring a minimum of 8 characters, then including numbers, then special characters, and eventually a minimum of 14 characters...).

When the brain retrieves memorized information, it analyzes it repeatedly and decides whether to update it. In other words, the **new molecules will not be identical to the previous ones**, leading to an accumulation of unusable material that, because of their amount, cannot be eliminated, resulting in the formation of **beta-amyloid**, a residue.

The concrete mechanism may be different, but it could still be due to the cause we propose.

Ultimately, **the excessive updating or reviewing of memory would be the cause of said amyloid residues**, even though they, in turn, affect the functioning of memory and other systems.

The middle and advanced stages of Alzheimer's disease involve, in addition to the overuse of long-term memory, a second source of memory problems—one that is not independent of the first but rather derived from it. This is where the difficulty in understanding the process arises: the accumulation of amyloid molecules is a consequence of the original cause and, in turn, becomes a secondary cause of those same amyloid deposits by reducing the system's overall efficiency.

Regardless of the above, it would be reasonable for the support molecules of the LTM to be much more stable than those of the STM; this stability could explain why it is so difficult to eliminate them, especially without damaging others.

DIFFICULTY IN STOPPING THINKING ABOUT THE PAST

Accepting that the cause of Alzheimer's disease is the "overuse of thinking about the past" is not easy.

First, because it is not intuitive that such a habit could, by itself, have physiological consequences.

The concept we have of thought is very different from, for example, that of a car with wheels, an engine, fuel, waste, etc.; yet in reality, it is entirely comparable: thinking consumes energy, etc.; and if long-term memory (LTM) is used, it may involve changes in very stable proteins, producing residues that are more or less difficult to eliminate.

> **"The boundary between the behavioral and the physiological ceases to be a categorical division and becomes a continuum.**
>
> **And the terminology used in current literature becomes inadequate and potentially confusing, as it maintains a conceptual separation that biological functioning itself does not respect."**

It is undoubtedly hard to convince oneself of the need to control this habit, even when it is strongly recommended. Since this is not the only major obstacle to change and is almost a way of being, it is advisable to study its concept, intrinsic characteristics, uses, and potential harmful effects in detail.

With time, vigilance, and constant effort, it is possible to change this dangerous habit. The persistence of the disease could depend on it, at least in non-advanced stages.

- **Concept**

  Excessive use of memories and thoughts about one's own past is consolidated in long-term memory (LTM). Roughly speaking, this refers to memories older than one month.

- **Characteristics**

  - Thought uses the different types of memory within the Global Memory System (GMS) **automatically** and often begins **autonomously** to consolidate or reconfigure ideas, especially those in long-term memory (LTM).

    However, this automaticity can be trained, as it tends to imitate prior behaviors.

    It also operates during **dreams**.

  - The **internal time counter** only works for the "present."
    - It is advisable to try to recall when one begins thinking about the past.

Often, this will not work. It also fails when we are asleep, watching a movie, or even thinking about the future.

Consequently, from time to time, we must ask ourselves whether we are using LTM or have used it recently.

- Long-term memory (more than one month) is **relational** and, in one way or another, **compressed**.
  - Risk of uncontrolled relational access with numerous decompressions and recompressions, leading to persistent residues.
  - It is advisable to be cautious with specific social interactions if they tend to revolve around past events.
  - Risk from daily reminders of old personal photos on **social media.**
  - No one is better than oneself at monitoring one's own thinking.
  - Subsequent and perhaps recursive access to the initial memory visualization.
  - Possible effects of **melancholy, nostalgia, homesickness, longing**…
- Physiological support is based on highly stable molecules.
  - The optimization of functional units has involved incorporating different **physiological characteristics** throughout evolution.

    An intuitive analogy might be that LTM is made of **stone**, STM of **liquid**, and working memory of **gas**.

    In terms of capacity, one might think of a **hard drive**, a **USB drive, and a Post-it note**.

    This helps us imagine their stability, capacity, and the possible types of residues that may be produced by changes in stored information.
  - These changes could lead to the formation of stable molecular **residues**.
    - Difficulty in **eliminating** them.
    - The brain itself is responsible for clearing them, but it cannot do so if their production is abnormally high or if the efficiency of its cleaning system decreases.

- **Complexity**
  - Difficulty distinguishing between normal thinking and its overuse.
  - The multiplicity of the Global Memory System records events dynamically according to their **nature and use**; they are assigned to its functional units: working memory

(WM), short-term memory (STM), special memories (SM), and long-term memory (LTM).

- Moreover, their use can vary considerably over time.
- The conceptualization of events also changes.
- Events of an exact nature may appear **simultaneously in the different functional units** mentioned. Simple examples include calculations, both basic and complex, and words, both very common and unusual.

- Special memories (SM) may exhibit properties like LTM and specific characteristics, such as:
  - Special encryption and super-relational structure.
  - Very stable molecular structure of relationships, but with few changes due to their highly technical nature.
  - Examples of SM include musicals, visual, geographic memory, languages, technical subjects such as physics or mathematics, the streets of a city, or maps in general.
  - They have relationships with both STM and LTM.
- The **overuse of thinking about the past** (the proposed cause of Alzheimer's) **may also remain hidden** because it is impossible to distinguish between the early stage—when physiological effects or typical Alzheimer's residues begin—and other behaviors or personal situations such as stress, anxiety, specific obsessions, lack of sleep, or drug abuse, which saturate STM and present the same primary indicators or symptoms without causing Alzheimer's when they do not affect LTM.

  However, in the medium or long term, they could lead to other types of dysfunctions or brain disorders.
- The logical correlation between advanced age and thoughts about one's personal past, together with the lack of a known cure, leads to strong resistance to accepting the possibility of having the disease, attributing early symptoms or indicators to age.

  Interestingly, acknowledging that a real possibility could lead to strong prevention or even a cure in the early stages.

- **Optimization of the GMS**

  Given its characteristics, the complexity of the Global Memory System, and the many situations it faces throughout life, the system needs to be **flexible in the short term and adaptable in the long term**. When these processes do not function properly, severe complications may arise in the system.

- **Effects LTM overuse.**

- Constant modifications of LTM produce too many stable residues for the body to remove, eventually affecting large areas of the brain.
- Saturation of short-term memory (STM):
  - Prevents new entries.
  - Gradually invades STM internally, meaning its nature begins to change.
- Working memory (WM) depends on STM in many ways; that is, many of its failures are due to STM problems.

- **Unusual recommendations compared to the current Alzheimer's culture**
  - Avoid overusing thoughts about the past.
  - Avoid, until the GMS recovers:
    - Reading books, because they occupy the STM unnecessarily for many days.
    - Watching soap operas or series on Netflix or other TV platforms.
    - Memory exercises, except those involving typical STM elements.
      - For example, avoid unusual words and non-simple calculations.
  - Monitor:
    - Be cautious with social interactions in older age that revolve around past events or other ambivalent topics.

EVOLUTION AND STAGES

Currently, Alzheimer's disease has no cure, and its progression can only be slowed or temporarily stalled through memory exercises and improvements in lifestyle habits—such as social interaction, physical activity, and the presence of pets.

The present Alzheimer's theory, "Back to the Present," introduces new ideas and some evidence suggesting that in the early stages of Alzheimer's, **not only a deceleration but a meaningful recovery may be possible**—even a complete reversal—if the primary cause is eliminated: the habitual overuse of past-oriented thinking. This approach reinforces short-term memory (STM) by anchoring it in present-day experiences and recent memories.

It's essential to recognize that if someone is accustomed to spending much of their day thinking about the past, **changing the brain's habitual functioning won't be easy**. It will require ongoing **monitoring** and daily review of how much—and how often—one dwells on the past—or, more precisely, how frequently one is not fully present in the broader sense.

To this end, a set of **Assessment Templates** has been developed (in a standalone booklet) to highlight specific aspects and events to monitor, and to quantify them to track personal evolution and assess the impact of our "presence" each day or over the chosen follow-up period.

In the preliminary stage of Alzheimer's. If daily events are consistently monitored to strengthen the Global Memory System (GMS) regarding broad-spectrum "presence," a **modest recovery** should begin to emerge within one to two months, and a near-total reversal may be achievable within three to **six months**. Since there will be few adverse events, the necessary vigilance will not be intense, and templates are not required, although they are a good guide to the aspects that need monitoring.

To simplify, we'll divide the progression of Alzheimer's into three stages:

1. **Preliminary Stage – The thinking and the Excuses born of the soul.**

Until it becomes openly manifest, the development of Alzheimer's often goes unnoticed. The few early signs that do appear tend to be dismissed due to what we call the **"Excuses born of the soul"**. The most common excuse is that these symptoms are simply a consequence of aging or a little stress.

Naturally, some excuses may be valid. For instance, when we relocate to a new city or country and return two years later, we often struggle to recall street names or familiar places, and no one would dare to call this phenomenon "geographic Alzheimer's."

However, it's crucial to highlight how these excuses allow us to ignore the initial symptoms, preventing any attempt to control or reverse them. The later we become aware of the problem, the harder it will be to address. Therefore, we must minimize excuses.

If we know we are quite stressed, have slept little for several days, and have drunk too much, the excuses for not worrying about Alzheimer's are reasonable.

Under normal conditions, excuses make sense and are likely accurate. But if we suspect **Alzheimer's, we should not accept a single excuse,** even if it's technically correct—because its appearance signals a lack of vigilance. Appropriate measures must be taken to prevent it; excusing it would mean doing the opposite.

Ideally, there should be none—or at most one or two—excuses per day. In fact, since we assume there is no problem, **the first sign of Alzheimer's may be a sudden increase in the daily number of Excuses born of the soul.**

Suppose the tendency not to live in the present is not corrected; more memory lapses will begin to occur, such as forgetting what one has done, what one was about to do, names, dates, places, and other elements that were previously recalled instantly. This leads to the next stage.

The duration of this first phase depends on how much time is spent daily thinking about the past, as well as on many accelerators and brakes.

2. Sociological Effects. Vicious Circles.

If the **Excuses born of the soul** were the primary guest in the initial stage, the middle stage is dominated by **vicious circles** with cumulative effects.

Amyloid matter is already detectable, and diagnosis is possible through both memory and skills tests and clinical analyses.

As short-term memory (STM) is increasingly replaced by episodes from long-term memory (LTM), the following effects emerge:

- The **present becomes less interesting** because it is increasingly forgotten. There is no need to delve into the psychological reasons behind this entire process. It is better to leave personal interpretations to those directly involved—ideally with psychological support if needed.
- STM becomes saturated. Because it is much smaller than LTM, it becomes **unstable and erratic**. Some days, the person talks about specific topics; other days, about completely different ones from different eras. There's less interconnection between thoughts.
- The person frequently **repeats the same past episodes**, which may begin to constitute their present.
- **Family members suffer** significantly due to constant repetition and lack of empathy or attentiveness during conversations.
- If the person follows general recommendations—such as memory exercises, conversations, or interaction with pets— these repetitive behaviors tend to decrease slightly. In other words, Alzheimer's progression slows or stalls because these activities **indirectly reduce** time spent thinking about the past.

  However, this stagnation rarely proves permanent.
- Current doctrine **never** speaks of returning to the present in the sense of **ceasing to dwell on the past**. As a result, it does not lead to recovery or reversal.

  What does it matter if we do exercises for one hour, if we spend eleven hours of the day thinking about the past, or in a parallel universe of our own making?

Even when Alzheimer's is diagnosed, **partial recovery might still be possible**—provided memory function is redirected.

3. Advanced Alzheimer's and Physiological Effects

The personal impact on family members and caregivers is best left to specialized articles and journals.

At this stage, an additional, unexpected, and uninvited element clearly emerges. Til this stage, it was hidden. It relates to the molecular residues produced by the memory-support mechanism, which must always exist.

Under normal conditions, these residues are naturally cleared. However, excessive rumination on the past or elaborate speculation about a parallel universe can overload memory and lead to repeated memorization. As a result, so many residues may accumulate that the standard system cannot eliminate them.

The core issue remains the **abuse of a behavioral pattern that severely affects the Global Memory System (GMS)**, making reasonable recovery much more difficult—and perhaps rendering complete reversal impossible.

This is the well-known, previously mentioned issue with **amyloids**.

Specifically, having had family members with Alzheimer's, I've long considered two possible causes for the overproduction and accumulation of amyloids:

a) After recalling memories and events, we may choose to **alter their content**—because we now understand them with greater clarity or precision, thanks to a more mature brain and broader experience.

   Naturally, the system will attempt to **reuse the material substrate of those memories** with slight modifications, resulting in partial loss of the original structure.

b) Every comprehension mechanism relies on a **key vector**, and it's reasonable to assume that this vector updates with age, perhaps every 10 or 20 years. Changing the key vector forces the system to track which comprehension vector was used at each moment, and managing thousands of vectors would be inefficient.

   In any case, when we reflect on the more distant past, the comprehension algorithm has likely changed—at least in terms of the key vector. The immediate consequence is that, even if we still grasp the original meaning, **we may feel compelled to update the key vector** when re-compressing the information—leading to the production of additional residues.

T**he present always remains the present,** and the brain's remarkable capacity for recovery—and the advancement of the power of science to solve hieroglyphs may give us delightful surprises thanks to this new or another perspective.

Technical Note on This 3rd Stage

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For **years**, I had a vague idea of what I understood to be proteins—or something similar—when, in fact, I was referring to the substance known as amyloid. Before presenting these ideas in this book, I wanted to make sure I wasn't mistaken, so I asked COPILOT. The response was:

- **Beta-amyloid peptides (Aβ):** Protein **fragments** derived from the amyloid precursor protein (APP) that tend to aggregate and form plaques in the brain—a key hallmark of Alzheimer's disease.
- **Beta-amyloid plaques:** Extracellular accumulations of these peptides in brain tissue, associated with neurodegeneration.
- **Aβ42 and Aβ40:** The most studied variants. Aβ42 is more prone to forming toxic aggregates.

In short, the concept I had aligns well with the technical and functional characteristics of amyloid material—mainly when described as "protein fragments."

THE BRAIN'S DUAL BORDER

In each of the three essays, Alzheimer's disease, the four major brain disorders, and Vascular Dementia (VD), the shared sections and conclusions of the other two are included, as they form a logical complement to one another.

Moreover, the convergence of all three within a **Hypothetical Conceptual Framework** significantly expands the possibilities for experimentally verifying the model as a whole.

- - -

The **blood–brain barrier** plays an essential role in protecting the brain from potentially harmful external agents while limiting the exit of metabolic waste. In other words, it constitutes a dual boundary of the brain or **common physiological environment**.

Therefore, internal clearance is not a simple task, and the overall balance can be compromised if any component fails to operate correctly.

By recognizing this dual boundary, we gain a clearer appreciation of the brain's functional complexity and the importance of its internal management for neurological health.

In other words, this duality is a key to understanding how the brain maintains equilibrium while simultaneously facing vulnerabilities inherent in its own protective system.

If we have spoken of a **Unified Functional Principle**, we now encounter a **Common Physiological Environment** that reinforces the idea that the accumulation of protein residues—and other smaller by-products—may arise from the brain's normal functioning under adverse conditions, such as **functional overuse and the resulting generation of systemic errors, or from deficiencies in the internal clearance system within a closed environment.**

In summary, the conjunction of the functional principle with the physiological environment establishes a **Hypothetical Conceptual Framework** for the four most important brain diseases and for vascular dementia and constitutes the foundation of the **Synthetic Theory of Neuronal Dysfunctions.**

From this perspective, it seems reasonable that additional, smaller brain disorders may be incorporated into this framework in the future.

SCIENTIFIC SUPPORT 👈

While this theory may not be well known, it is undoubtedly scientifically sound, supported by robust evidence and compelling arguments.

The scientific evidence for this theory includes:

1) **We share all the proposals of current medicine.**

   However, with specific comments set out in the section of the general index, TERMINOLOGICAL PRECISIONS, since they relate to the use of the overloaded STM (short-term memory) or the recourse to the already overused LTM (long-term memory).

   Given that current medicine considers the cause of Alzheimer's disease unknown, all proposals focus on **accelerators or brakes**.

   Of course, the issue of additional amyloid material is a different subject. Here we are talking about **the origin of Alzheimer's, not about the later complications.**

2) **The coherence of the functional analysis of the Global Memory System (GMS)**

   The analysis supports the theory that **improper use of the memory system** in the preliminary stage could lead to Alzheimer's disease, detectable through physiological conditions, rather than memory problems being merely a consequence of said conditions.

3) **Maladaptive Daydreaming Disorder** (See Annex 3).

   A technical concept that shows many similarities to Alzheimer's disease and **is reversible.**

   It occurs in childhood, whereas Alzheimer's usually develops at an advanced age.

4) **Scientific validation: econometric model.**

   The novelty of this theory lies in identifying "thinking about the past" as the leading cause of the disease.

   It is worth emphasizing that all current behavioral proposals with **scientific evidence** in medicine relate to "living in the present" and indirectly "thinking less of the past"; in other words, there is a negative mathematical correlation with the **brakes** (stronger brakes implies minor advance of Alzheimer's; and a positive correlation with the **accelerators** (the bigger the accelerators, the higher the advance of Alzheimer's).

a) Speaking of the most typical breaks, maintaining social relationships, having pets, and performing household tasks **compel the mind to think about the present** and, consequently, to reinforce the **natural use** of short-term memory (STM).

b) In turn, all the circumstances or accelerators that are officially recognized as favoring Alzheimer's—such as age, depression, and loneliness—share the fact that they may involve excessive **thinking about the past** using long-term memory (LTM), which will logically **overload STM**.

Clear examples are living alone due to the death of a person very close in one's life, and Alzheimer's appearing quickly.

If we were to conduct a statistical analysis (e.g., an econometric model with ordinary least squares regression (OLS)) including all variables accepted by scientific evidence as accelerators or brakes of Alzheimer's, the fit between Alzheimer's progression and "Dwelling on the past" would **be very, very high.**

In conclusion, **there is scientific evidence,** preserved in the treasure chamber of empirical knowledge, of a clear causal link between "Dwelling on the past" and the advancement of Alzheimer's disease**.**

The analysis is not simple. Social relationships can generally delay Alzheimer's, but when referring to gatherings of older adults, the topics may be too centered on the past and therefore less effective. Although there are other ambivalent factors, the observed statistical correlations surely account for them.

In other words, statistical correlations tend to reflect observed facts rather than preconceived ideas.

5) A noteworthy element is that we do not contradict any previous scientific theory. However, given that this is a significant and extensively studied subject, it is especially relevant.

6) Empirical Validation.

Back to the Present: A Personal Reflection on Memory and Alzheimer's.

Here is a particular case involving memory alone, but not necessarily a special one.

Alzheimer's has always felt close to home. My grandmother, my father, and my sister have all faced it. So, when I began noticing minor memory lapses, I couldn't help but wonder: was I next? Genetics might surely play a role, but I've also considered personality and lifestyle factors, such as living alone for extended periods. These thoughts weren't just idle speculation; they became the foundation for a quiet investigation into my own mind.

The starting point of this story (21-09-23):

I decided. I was tired of having to repeatedly recall curious moments from my life—memories that shaped me. So, I began writing them down in chronological order. It wasn't just a therapeutic exercise; it was a way to avoid the trap of excessive retrospective analysis. **I wanted to live forward, not backward.**

6 months later:

I asked a **neurologist** whether I might be showing signs of Alzheimer's. I mentioned some early indicators to my daughter and wanted to reassure her. After a brief evaluation, the doctor told me there was no cause for concern.

Still, I hadn't shared the whole picture—many events had occurred after that consultation, and I'd never examined them in such detail before.

Looking back, I'd say my symptoms were very early-stage, but present, nonetheless.

One-year:

I had always known memory prioritizes what is deemed proper. If something isn't needed for the future, it's discarded. This rule becomes more rigid when memory space feels limited.

I couldn't remember what I'd eaten the day before. Since I didn't like the subject at all, I decided to think about it every day, two or three times, about what I had eaten, and, sure enough, the next morning, I knew it.

Every morning, I found myself struggling to order the same coffee, juice, and toast at the café. It felt trivial, but it was a sign. The waitress seemed to notice too—she'd ask me daily what I wanted, even though it never changed. Eventually, **I took the phrase seriously**, committed to it, and **the issue was resolved.**

A year and a half:

I'd wake up unsure of the day or my plans. I relied on my phone, calendar, and computer, but I knew that wasn't enough. So, I began mentally rehearsing my schedule several times a day. **The fog lifted.**

Yet, I still found myself switching tasks mid-action, forgetting what I'd initially set out to do. It was a clear issue with **working memory**—one that demanded attention.

I had also **started to dislike the idea of traveling outside the city**, fearing that a lapse might cause me to miss a flight or lose something important.

I had also started to **lose interest in driving** for similar reasons, although at the time I didn't know why.

A year and nine months:

Sometimes I would **open the little kitchen cabinet doors** that didn't match the ones I wanted. I decided to check them all from time to time and pay more attention to the present, that is, to avoid doing things automatically while thinking about two other things at once. As a result, this sign diminished considerably.

The thought that I was clearly showing early signs of Alzheimer's had taken root within me. I told myself to look for a common cause for all the incidents.

A revelation struck me: perhaps the root of these episodes was "**not living in the present"**. The idea resonated deeply.

I resolved to stop dwelling on the past.

With time and effort, I regained control. My last vacation went smoothly, without a hint of insecurity. Even minor signs—like opening the wrong kitchen cabinet—began to fade once I started checking them deliberately.

It's important to emphasize that **working memory doesn't improve simply because one thinks,** "I need to do these three things." In most cases, this strategy won't work unless the necessary memory conditions are in place.

Two years:

No longer mind having to drive.

I continue to monitor not only early signs, but also how often and how long I dwell on the past. Thinking about the past is necessary; the problem lies in overdoing it.

If I notice any "symptom," I immediately think about how to avoid it.

For example, I've gained a new insight regarding the kitchen cabinet issue: if I'm thinking about something complex, it's easy to open the wrong little door. In essence, "Return to the Present" doesn't just refer to time—it also refers to space and attention. **It's about presence**.

When I don't know something, my brain no longer tells me it doesn't know or doesn't know where to look. Specifically, if memory doesn't retrieve something immediately, it now says, "Wait, let me find it," and **usually responds within seconds**.

Another aspect of short-term and working memory that **seems to have recovered** is that, when I ask myself whether I've done something recently,

memory shows me a mini video of the action. It doesn't just tell me I did it; it confirms it completely. These mini-videos were normal until recently, when I noticed they had disappeared—and I missed them deeply.

My relationship with memory has transformed.

You could say I'm almost back to where I was two years ago.

This essay is not a diagnosis. It is a quiet, personal reflection on memory, identity, and the power of presence. And if there's one thing I've learned, it's this: The present is not just where we live, it's where we heal.

* * *

What matters in this story is not the exact dates mentioned, but the onset of the problems, their evolution, and—at least—their apparent reversal.

Madrid, October 5, 2025. I'm on a short vacation. I want to share a feeling I had just ten minutes ago, walking among the tall trees on a street in my neighborhood:

"I'm finishing the self-assessment appendix, and beautiful ideas and little jokes are popping up everywhere. Suddenly, thinking about this, I felt the brain was excited to be finishing the book—and then a neuron fired, telling me that's not it. It's thrilling because it's working perfectly. So much so, it wants to thank that part of itself that never stopped functioning—called Will."

FINAL CONSIDERATIONS

It is not about giving up the past; we have all retained many elements throughout our lives. It is beautiful to remember the precious ones and to analyze and learn from the less pleasant ones; however, nothing should be abused in general.

Let's look at three similar examples as they have medium and long-term effects:

- Although the night is beautiful with all its lights and colors, being in places with poor lighting for too long can cause or accentuate **myopia** in the medium and long term.
- It is automatic on numerous occasions to look to the side without moving your head, but if this behavior becomes normal, over time, it can cause or accentuate **astigmatism**.
- Likewise, having a drink occasionally can even be healthy, but the consequences of abuse can be catastrophic.

The brain's capacity and functioning are designed for everyday situations, while also maintaining the ability to work across a broader spectrum.

The topic of medium-term memory has not been explained in greater depth, likely because there are many different types of memory. For example, specialized memories, such as language or driving memory, fall between short-term and medium-term memory and are loaded automatically every morning or one or two seconds before driving begins.

However, a similar pattern is observed: even people who speak more than two languages very well have trouble maintaining fluency in more than two.

Furthermore, Alzheimer's disease affects language because the function of specialized memory also declines, thereby increasing reliance on short-term memory. Also, as always, if you don't practice regularly, you will lose fluency.

CONCLUSION

Given the significance of Alzheimer's disease and the zero risk of potential adverse effects, it would be advisable for these ideas to be made public as quickly and as widely as possible.

According to the World Health Organization, nearly 10 million new cases of dementia occur worldwide each year, of which about 7 million are due to Alzheimer's disease. This amounts to approximately 19,000 Alzheimer's diagnoses every day.

For this purpose, I have developed quantitative assessment templates for Alzheimer's that I believe will be highly effective. In addition to informing us whether we are improving, the very act of completing the templates helps us stay alert to the memory challenges we face, drawing us nearer to the golden present.

Another relevant effect is that aggregating completed templates will immediately reveal whether the method used to reverse Alzheimer's—at least in its early stages—is appropriate. Moreover, the monitoring cost is minimal: the system is designed so that interested individuals send their aggregated templates to a designated email inbox, enabling fast, economical processing.

In short, this approach could provide the level of detail and reliability needed for a provisional verification of the theory within six months.

The templates are available in a separate document, along with clear instructions, so that many people can follow the method without needing to read an extensive—and at times highly technical—explanation.

THE SEED OF THE PAST

I vaguely remembered that in my book from around 2015, "*Memory, Language, and Other Intellectual Capacities*", I had written something about Alzheimer's—but I wasn't exactly sure what I had said.

Finally, after finishing this essay, I decided to check. And indeed, in the 2013 edition and subsequent ones, I had written the following paragraphs:

"I'm referring to everyday age-related issues, but obviously, in some cases, the symptoms are much more serious and lead to memory loss that can progress to dementia or diseases such as Alzheimer's.

Surely, as with all complex processes, having limited memory or not properly exercising specific sources of compressed information will be **positively correlated with Alzheimer's.**"

ANNEX 1 – OUR PROPOSAL 👈

TO SLOW DOWN AND PERHAPS REVERSE ALZHEIMER'S 👈

I want to highlight the **Daydreaming Syndrome described in Annex 3**, which I came across online by chance. It deals with a problem like Alzheimer's and could be considered a kind of childhood Alzheimer's.

The most **relevant aspect of this disorder** is that a complete correction is possible.

Secondly, there are **two fundamental differences** between the current cultural approach described in **Annex 2** and the present proposal: one is that it offers no possibility of cure, and the other is that it does not suggest that people **stop obsessively thinking about the past, even unconsciously.**

Other **minor discrepancies** stem from this. For example, reading books or watching soap operas, in a certain sense, is like overthinking about the past or parallel worlds, because they rely on short-term memory. Likewise, even doing exercises such as numerical problems or crosswords can initially be counterproductive if short-term memory is overloaded, since it is not advisable to generate tension, and one must give time its due, especially if there is already an Alzheimer's diagnosis, which, in my view, corresponds to being in the second stage.

As the title of this section suggests, I am not sure that Alzheimer's can be reversed, even in the first stage, but I like to think that in the second stage, at least partial recovery might be feasible. The third stage is a very different disease, physiological rather than purely functional.

Finally, the aim is not to cause worry or unnecessary tension, but rather to offer the possibility of prevention and, most importantly, of reversal—because not attempting it would personally make me more nervous.

INTROSPECTIVE ANALYSIS

In short, it's best to gradually change habits without trying to alter the natural functioning of memory — it will adapt on its own.

- Don't try to understand your own personality too insistently.
- **Refraining from excessive reflection on the past** is difficult, since, beyond an act of will, one must acknowledge that thought often operates automatically and that the internal timekeeping mechanism ceases to function during such activity. However, with little pressure, **it** can be achieved gradually.
- The content of STM (short-term memory) and LTM (long-term memory) is established automatically, depending on how memorized elements are used and processed.
- Reject the **soul's excuses** for memory failures.
- Don't try to do things too quickly, as if life were running out.
- Don't multitask — it increases the tendency to act automatically while thinking about something else, like the presence.
- Avoid forgetting actions once they are completed. A daily review of what was accomplished the previous day strengthens the automatism of short-term memory (STM).
- Be aware that thinking speed gradually slows with age.
  - Same with muscle skills.
  - Same with memory.

For this purpose, a **separate booklet has been created, titled "Dynamic Assessment–Alzheimer–VaP," containing templates that include indicators of the leading cause, accelerators and brakes, and** detected effects. Completing these templates contributes to the *"Return to the Present."* Moreover, it allows evolution to be observed quantitatively, which will undoubtedly help sustain the delicate and necessary effort not only to slow but also to reverse Alzheimer's disease, possibly.

Of course, the result could suggest that we do not need to worry.

ADDITIONAL RECOMMENDATIONS

Every process takes time, and with a bit of effort, a more natural rhythm—one aligned with nature—can be achieved.

- **Fill out the dynamic assessment templates mentioned**. They are not indispensable, but they help to visualize both the problems and their solutions.
- Follow current news.
- Avoid excessive consumption of soap operas or long-running series.
- Don't watch documentaries with repetitive themes.

- **Don't read books** (they're generally not part of the real present).

INCREASING THE PRESENCE

The best approach is to use short-term memory with present-day elements and experiences while thinking less about the past, allowing long-term memory to let go gradually.

- **Social relationships.**
  - Gym.
  - Guided tours.
  - Conferences.
  - **Pets**.
- **Social environment.**
  - Important nearby shops in the neighborhood.
  - Streets, building numbers, and apartment floors of relatives nearby.
- **More personal**
  - Basic numerical exercises.
  - Recall street names in the neighborhood or city.
- **Remember** names of friends, relatives, and their addresses.
- **Home**
  - Review where everything is in the house.
  - What's in each drawer and corner?
  - Any idea that comes to mind — even searching for something — is helpful.
- **Planner**.
  - Know the day of the week. A good trick is to learn what weekdays the 1st of the current month falls on.
  - Know the date.
  - Think about what you ate for lunch and dinner yesterday, and plan meals for today and tomorrow.
  - It's fine to write things down while trying to remember them without looking at the agenda!
  - Shopping, activities, visits, etc.
- **Physical exercises and general health.**
- **New culture.**
  - Staying up to date with current culture is rewarding and helps with social interaction.
  - On the Internet, there are videos about everything. They may exaggerate or mislead sometimes, but it's even more fun to guess how and why.
  - Nowadays, computers are affordable and easy to use for basic tasks.

ANNEX 2 – CURRENT IDEAS

a) COPILOT: STRATEGIES TO DELAY ALZHEIMER'S DISEASE

Regular physical exercise, involving at least 150 minutes per week of aerobic activity (such as walking, swimming, or dancing), has been shown to improve memory and reduce the risk of cognitive decline. Combining it with strength training enhances cardiovascular health, which is closely linked to brain health.

MIND diet, based on the Mediterranean and DASH diets, includes fruits, leafy green vegetables, whole grains, fish, legumes, nuts, and olive oil. It limits red meats, ultra-processed foods, and added sugars.

Cognitive stimulation, such as Reading, learning languages, playing instruments, solving crosswords, or participating in social activities, activates "cognitive reserve," which helps protect against brain damage.

Social relationships and familiar environments. Maintaining emotional bonds and routines in familiar spaces helps reduce anxiety and improve orientation.

Home Care

Adapting the physical environment: Remove obstacles, ensure good lighting, prevent falls, and store dangerous objects out of reach. Organize the space progressively, room by room.

Daily routines: Establish schedules for simple activities, keep visible calendars, and encourage autonomy in everyday tasks, such as dressing and eating.

Caregiver support: Share responsibilities, ask for help, and avoid physical and emotional exhaustion. Empathetic communication is key to preventing frustration.

Mental and Physical Exercises

YouTube offers guided exercises and routines adapted for all ages, helping to keep both the motor and cognitive systems active.

Agenda and temporal orientation: Know the day of the week, recall recent meals, plan activities, and try to memorize without relying on written notes.

b) GEMINI: CAUSES OF ALZHEIMER'S

What are the leading known causes of Alzheimer's? Alzheimer's disease is a complex and progressive neurological disorder whose exact cause is not yet fully known. However, research has identified a combination of factors that, together, contribute to its development. The main known hypotheses and risk factors are:

1. **Brain Changes (Pathological Characteristics):**

Beta-amyloid plaques: One of the main characteristics of Alzheimer's is the abnormal accumulation of a protein called beta-amyloid. This protein clumps together into plaques that form between neurons, interfering with cellular communication. This accumulation is believed to be an early and crucial event in disease progression, leading to brain damage.

Tau protein tangles: Inside the neurons, the tau protein becomes hyperphosphorylated and accumulates in the form of "neurofibrillary tangles." Tau protein is vital for neuronal structure and nutrient transport. When it clumps together, it disrupts this transport system, leading to cell death. The severity of dementia has been shown to correlate with the amount of tau tangles.

2. **Genetic Factors:**

Risk genes: Although most cases of Alzheimer's are not strictly hereditary, genetics play a crucial role. The most well-known gene associated with increased risk is apolipoprotein E (APOE). Having the APOE-e4 variant significantly increases the likelihood of developing the disease, although it does not guarantee its onset.

Deterministic (causal) genes: In a tiny percentage of cases (less than 1%), generally in early-onset Alzheimer's disease, specific genetic mutations in the APP, PSEN1, and PSEN2 genes cause the condition. If a person inherits these mutations, they will almost certainly develop the disease.

3. **Non-Modifiable Risk Factors:**

Age: the leading risk factor. While it is not a regular part of aging, the risk of developing Alzheimer's doubles every five years after the age of 65.

Sex: Women have a higher risk of developing Alzheimer's, especially after the age of 85.

Family history: Having a first-degree relative (parent, sibling) with Alzheimer's increases the risk.

4. **Modifiable Lifestyle and Health Factors:**

Cardiovascular health: A strong connection exists between heart health and brain health. Conditions such as high blood pressure, high cholesterol, obesity, diabetes, and smoking increase the risk of developing Alzheimer's.

Head trauma: Severe or repeated traumatic brain injuries can increase the future risk of dementia.

Lifestyle factors, including physical inactivity, an unhealthy diet, social isolation, inadequate mental stimulation, and poor sleep quality, have been associated with an increased risk.

Education: Lower educational attainment has been identified as a risk factor. Higher education and cognitive activity throughout life seem to build a "cognitive reserve" that protects against decline.

ANNEX 3 – GEMINI: MALADAPTIVE DAYDREAMING

HIGHLY RELEVANT TO THE PRESENT THEORY

It's a psychological condition that isn't officially recognized in psychiatric diagnostic manuals (such as the DSM-5), but it has been extensively studied and described by both psychologists and psychiatrists.

What Is It?

Maladaptive daydreaming is a psychological phenomenon characterized by vivid, immersive fantasy activities that significantly disrupt daily life. Unlike ordinary daydreaming, which is natural and often beneficial, this behavior becomes a compulsive form of escape.

It is not officially classified as a mental disorder in diagnostic manuals such as the DSM-5, but it is gaining attention as a growing field of research.

Key Symptoms and Characteristics

People who experience this syndrome often display the following traits:

- **Immersive, elaborate fantasies**: They create rich inner worlds with detailed characters, plots, and settings. These daydreams feel almost real.
- **Compulsiveness needs to fantasize**: They feel driven to enter these fantasies, sometimes spending hours a day in this state, and struggle to stop or control them.
- **Specific triggers**: Daydreaming may be prompted by music, films, books, or simply silence.
- **Repetitive movements**: It's common for individuals to engage in physical behaviors like pacing, rocking, or hand gestures while daydreaming.
- **Real-life impact**: Excessive daydreaming replaces social interaction, work, studies, and responsibilities, leading to isolation, strained relationships, and difficulty functioning.
- **Emotional distress**: Many feel shame, guilt, or anxiety about the time spent in fantasy, which can contribute to depression and emotional suffering.

Causes

The exact causes are not fully known, but it is frequently associated with:

- Escape mechanism: A way of coping with loneliness, trauma, stress, or boredom. Fantasies provide a safe and rewarding refuge that reality does not offer.
- Comorbid disorders: It often coexists with other conditions, such as depression, anxiety, obsessive-compulsive disorder (OCD), and attention-deficit hyperactivity Disorder (ADHD).

Possible Treatments

Although there is no standardized treatment, therapeutic approaches can help individuals regain control over their lives. These may include:

- **Cognitive-behavioral therapy (CBT)**: Helps identify triggers and develop strategies to manage the urge to daydream.
- **Mindfulness-based therapy**: Encourages connection with the present moment and greater awareness of thoughts and behaviors.
- **Addressing underlying conditions**: If maladaptive daydreaming is a symptom of another disorder, treating the root cause may reduce the need to escape into fantasy.

ANNEX 4 – UNIFIED FUNCTIONAL FRAMEWORK

Summary of the book "Alzheimer's, Parkinson's, FTD, and Lewy Bodies"

This section presents the conclusions of the book *"Alzheimer's, Parkinson's, FTD, and Lewy Bodies,"* which outlines a hypothetical conceptual framework and proposes a common functional principle to understand the differential vulnerability of brain circuits in the major neurodegenerative diseases: **Alzheimer's disease, Frontotemporal Dementia (FTD), Parkinson's disease, and Dementia with Lewy Bodies (DLB).**

The hypothesis suggests that each disease could be associated with chronic overload of a specific cognitive or motor circuit, combined with the progressive decline in protein-clearance systems that occur with aging. Although the proteins involved in each pathology differ, the functional pattern connecting them may be unique and coherent.

1. Introduction: Toward a Unifying Functional Principle

Neurodegenerative diseases are often studied from a molecular perspective: amyloid, tau, alpha-synuclein, TDP-43, FUS… Each appears to have its own biochemical "signature." However, this fragmented approach leaves an open question: **why do different diseases affect different brain circuits if the underlying cellular mechanisms are similar?**

The functional framework proposed here begins with a simple idea:

Each brain circuit has a dominant function. If that function is overloaded for years and the protein clearance system fails to perform, the circuit may become vulnerable to the accumulation of its characteristic protein.

This principle does not aim to replace existing molecular models, but rather to offer a complementary interpretation that unifies scattered observations under a single functional axis.

2. The Single Functional Principle

The principle can be expressed as follows:

The brain circuits used most heavily, demanded by certain thinking styles or behaviors, may be the first to show vulnerability when the ability to eliminate misfolded proteins is insufficient to clear all residues.

This allows each disease to be reinterpreted not only by its protein, but also by the **function that chronically overloads the affected circuit.**

3. Comparative Table

Below is a comparative table summarizing how each disease fits within the proposed functional framework.

COMPARATIVE TABLE

NEURODEGENERATIVE DISEASES**

Disease	Most Demanding Functional Circuit	Dominant Function	Associated Protein	Hypothetical Functional Overload
Alzheimer's disease	Hippocampus and memory networks	Long-term memory	Beta-amyloid, Tau	Intensive use of memories, rumination, living in the past
Frontotemporal Dementia (FTD)	Prefrontal cortex	Decision-making, flexibility	TDP-43, Tau	Constantly changing one's mind, chronic indecision
Parkinson's disease	Basal ganglia	Automatic movement and motor control	Alpha-synuclein	Overload of motor control, tension, and overcorrection
Dementia with Lewy bodies (DLB)	Attentional-perceptual circuit	Attention, vigilance, and visual perception	Alpha-synuclein	Hyper alertness, perceptual overinterpretation, excessive sensory effort

4. Interpretation of the Table 👈

The table shows that although each disease involves different proteins, they all share a familiar pattern:

- A functional circuit that operates intensely or under high demand for many years.
- A dominant cognitive or motor function that defines that circuit.
- A characteristic protein that becomes more stable or more prone to aggregation as the clearance system slows down.
- A hypothetical functional overload that could contribute to the circuit's vulnerability.

This pattern provides a coherent explanation for why each disease affects different regions of the brain.

5. Unification under a single functional principle

The strength of this conceptual framework lies in the fact that it:

- Does not contradict existing molecular evidence.
- Does not propose treatments or clinical interventions.
- Does not depend on any specific protein.
- Does not require assuming single causes.

It simply organizes observed reality under one functional principle:

The circuits most heavily used throughout life may be the first to fail when the capacity to eliminate proteins is insufficient.

This principle allows existing recommendations (such as checking vision and hearing, maintaining social activity, or reducing rumination) to be reinterpreted as indirect ways of reducing the functional overload of specific circuits.

6. Conclusion.

The unified functional framework presented here does not aim to replace current biomedical models, but rather to complement them with a perspective that connects function, demand, and vulnerability. If this hypothesis were correct, it could open new avenues of research into how thinking styles, cognitive habits, and long-term functional demands influence brain health.

The next logical step would be to design experiments to assess whether reducing functional overload in each circuit affects disease progression. Until then, this model offers a clear and coherent way to understand four pathologies that, although distinct, may share a common functional principle.

ANNEX 5 – VASCULAR DEMENTIA, THE THRESHOLD OF THE INVISIBLE

1. Functional Parallels Between Early Protein Processes and Vascular Processes.

This article summarizes the conclusions of the final book in the trilogy on brain diseases, "Vascular Dementia: The Threshold of the Invisible," by integrating vascular dementia under the same principle that defines the unified functional framework.

To begin with, in protein-related processes, the initial phase is dominated by small and highly reactive units: oligomers, protofibrils, seeds, and misfolded fragments. Although they have not yet reached the critical mass required to form large aggregates, they already generate micro-functional failures that manifest as subtle, fluctuating, and clinically perceptible changes—yet remain nonspecific for current diagnostic techniques. Nevertheless, they are functionally significant.

When these micro-failures are multifocal, their clinical expression may be confused with what is currently labeled as vascular dementia, contributing to today's diagnostic ambiguity.

In contrast, in vascular processes, early functional alterations arise from small units—microclots, deposits, and inflammatory remnants—that affect hemodynamics and microvascular integrity before any visible structural damage occurs.

Vascular dementia, in its current definition, exhibits a strikingly similar pattern, producing early microvascular functional alterations and a multifocal distribution.

Ultimately, the functional similarity between both processes allows them to be integrated into a single conceptual framework—not through superficial analogy, but because they share a logic of early disruption based on small, cumulative, and functionally active units.

2. Reinterpreting the "Behavioral"

This approach makes it possible to reinterpret what has traditionally been labeled as "behavioral." Rather than viewing it as a psychological or independent phenomenon, it can be understood as the early functional expression of the same cumulative processes that will later consolidate into structural damage, whether focal or more diffusely distributed.

The boundary between the behavioral and the physiological ceases to be a categorical division and becomes a continuum. The terminology used in current literature is inadequate and potentially confusing, as it maintains a conceptual separation that biological functioning itself does not respect.

3. Origin of Vascular Dementia and Forms of Expression

The difference between vascular dementia (VD) and the four primary diseases lies not in the process, but in its scale and mode of distribution. VD may originate either from auxiliary byproducts generated by the processes of those diseases or from byproducts produced in other regions of the brain, as long as repair capacity falls below the rate of residue generation.

In terms of expression, VD may manifest as:

- **Diffuse expression**, when several failures coexist without being localized to a specific circuit.
- **Modulatory expression**, accelerating or amplifying the clinical expression of an already existing overload.

4. A Common Architecture for different brain processes

Including VD within the unified framework reinforces the idea that neurodegenerative diseases, despite affecting different systems, share a deeper architecture based on cumulative processes that exceed normal thresholds before manifesting as structural damage.

VD is not outside the model; it completes it. It represents the micro-dispersed expression of the same functional principle in early or nonspecific phases.

5. Delimitation and Perspectives

The unified functional framework presented here does not aim to replace current biomedical models, but to complement them with a perspective that connects function, demand, and vulnerability. This hypothesis can be tested experimentally with relative ease, as it opens new avenues to investigate how thinking styles, cognitive habits, and long-term functional demands influence brain health over the medium and long term. This makes it possible to clearly distinguish, from the outset, between primary causes, accelerators, and brakes.

Until then, this model offers a clear and coherent way to understand how seemingly different processes—protein-related and vascular—may share a common functional principle, expressed at various scales and with varying degrees of visibility.