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Synthesis v3: a central hub and the “I” as accumulated history

Nadirion's reference theory since 27 September 2026, with the predictions that could refute it.

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Theory to be tested

theoretical note · no test run yet · predictions to be turned into criteria before any run

2	6	2	0
new principles: the central hub (P7) and the “I” as accumulated history (P8)	falsifiable predictions proposed	first tests decided: concentration and amnesia	tests run so far: the theory has not yet been put to the test

SUMMARY

The phase-1 tests (NR-04) refuted several predictions of Synthesis v2, which places the anchor of the self in the interoceptive body. On 27 September 2026 the author proposed an idea that extends it: a person's sense of self, the "I", arises from the accumulation and exchange of data in a region of the brain with a disproportionate number of connections, and the data accumulated over a lifetime give it continuity. Synthesis v3 unites the two theories: the body gives the "I" its **anchor** (who I am now), the memory accumulated in a **central hub** gives it **continuity** (who I have been). It adds two principles, P7 (the hub is defined by its number of connections, not of neurons) and P8 (the hub preserves the life history), and six predictions that could refute it. It is a working hypothesis, not a result: no test has been run yet. The first two, concentration and amnesia, will be run after step D5.

1 The thesis

> *The "I" arises in a central hub with a disproportionate number of connections, where data from the body and the world meet, are exchanged and accumulate over a whole life; the interoceptive body gives it its anchor (who I am now), the memory accumulated in the hub gives it continuity (who I have been).*

2 What is added to Synthesis v2

Synthesis v2 remains valid in its principles P1–P6, with its refutations on record. Version 3 adds two principles.

P7, the central hub. There is a region with connectivity disproportionate to the rest: many more synapses per neuron and many more links with other regions. That is where data meet and are exchanged. P6 already said that resources should be concentrated in an integrative hub; P7 says what defines it: the **number of connections**, not the number of neurons.

P8, the "I" as accumulated history. The hub does not only process: it **preserves**. The data accumulated over a lifetime (experiences, consequences of actions, states of the body) make up the "I" as an identity that lasts over time. Which data it preserves remains an open question, which the author proposes to approach by studying what each person remembers about themselves.

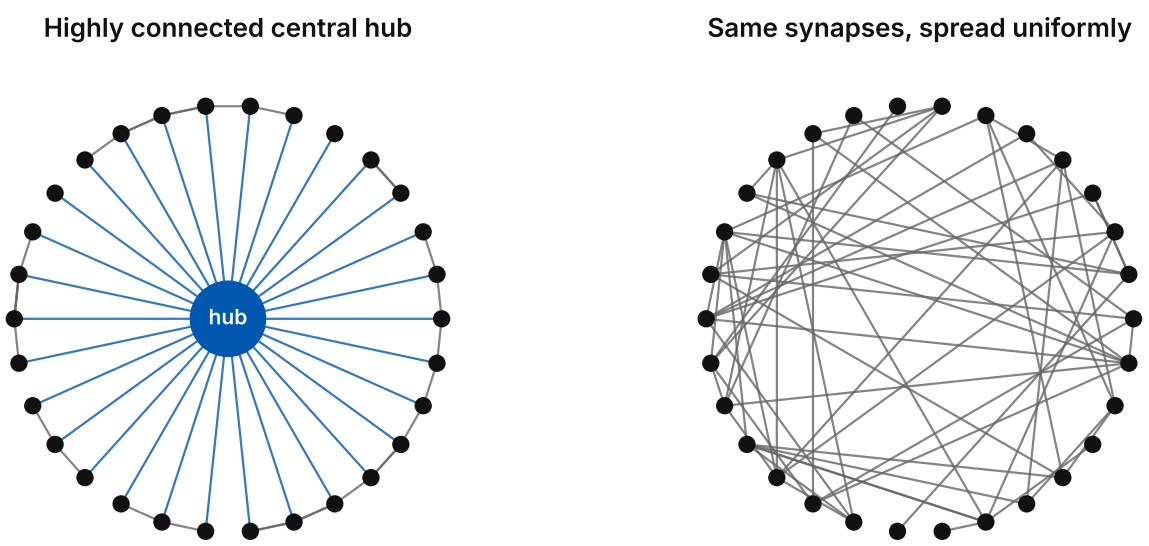


Figure 1. Illustrative diagram, not data: the manipulation behind prediction H-NODO-1. Left, a central hub concentrates the connections; right, the same number of links (60 in both diagrams) is spread uniformly. The prediction is that, with the same total number of synapses, only the configuration on the left shows strong signatures of integration.

3 A distinction that version 3 makes explicit

Being awake and present in a given moment and having an "I" are two different things. Patients with severe amnesia, who do not form new memories, remain present and alert, but their "I" stops in the past. Version 3 predicts this: accumulated memory serves the "I", not being awake and present.

4 Links with the literature

- **Hubs and the "rich club":** the human connectome contains a small set of regions far more connected than the others (van den Heuvel and Sporns, 2011).
- **Default mode network:** the posterior cingulate cortex and the precuneus are linked to thinking about oneself and to autobiographical memory.
- **Claustrum:** connected to almost the whole cortex, proposed as a coordinator (Crick and Koch, 2005).
- **Global workspace:** a hub where information meets and is integrated (Dehaene and Changeux).
- **Complementary learning systems:** the hippocampus records quickly, the cortex accumulates slowly (McClelland and colleagues, 1995).
- **Autobiographical memory:** some amnesic patients lose memories of episodes but keep knowledge of themselves (Klein and colleagues); the self-memory system (Conway and Pleydell-Pearce, 2000).

5 Counter-examples to keep in mind

- **The cerebellum** contains about 80% of the neurons and a great many synapses, yet people born without one keep their thinking and their sense of self. So what counts is not the total quantity of connections, but their concentration in a hub that **integrates** and exchanges with everything else.
- **Language models** process enormous amounts of data. Version 3 does not say that data are enough: it requires a hub, continuous exchange, the anchor of the body and accumulated history.
- **Amnesia:** a present and alert person without new memories, as predicted above.

6 The predictions

Each prediction will have to be turned into criteria, thresholds and seeds written before any run, as in all Nadirion tests.

code	prediction	what would refute it
H-NODO-1 concentration	with the same total synapses, a highly connected hub shows stronger integration signatures than distributed synapses	no difference between the two configurations
H-NODO-2 lesion	removing the hub makes the signatures collapse; removing a peripheral region of the same size does not	equal collapse, or none, in both cases
H-IO-1 accumulation	the measures of the self-model grow with the history accumulated in the hub	measures independent of history
H-IO-2 amnesia	erasing the hub's memory lowers the measures of the "I" while the integration signatures of the moment remain	both fall together, or neither falls
H-IO-3 continuity	two identical organisms with different lives choose differently, and the difference is explained by the hub's memory	difference explained by the rest of the brain
H-IO-4 which data	removing different classes of memories lowers the measures of the "I" for some classes and not for others	all classes count the same

7 What is needed to test it

The organism on published neurons (NR-05) already has a body, insula, amygdala, basal ganglia, locus coeruleus and workspace. Missing are a **hub** with controllable connectivity at the same total number of synapses, a **long-term memory** connected to the hub, and **long lives** for the organism, so that it accumulates a history. The author decided that the first tests will be H-NODO-1 (concentration) and H-IO-2 (amnesia), after step D5 (NR-06).

> **Status.** This is a working hypothesis, not a fact. The tests will measure functional roles and signatures of integration. Studying the memories of real people will require personal and health data, and therefore consent, an ethics committee and GDPR compliance, with a university partner.

References

- van den Heuvel, M. P. and Sporns, O. (2011). Rich-club organization of the human connectome. *J. Neurosci.* 31, 15775.
- Crick, F. C. and Koch, C. (2005). What is the function of the claustrum? *Phil. Trans. R. Soc. B* 360, 1271.
- Dehaene, S. and Changeux, J.-P. (2011). Experimental and theoretical approaches to conscious processing. *Neuron* 70, 200.

- McClelland, J. L., McNaughton, B. L. and O'Reilly, R. C. (1995). Why there are complementary learning systems in the hippocampus and neocortex. *Psychol. Rev.* 102, 419.
- Conway, M. A. and Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychol. Rev.* 107, 261.
- Klein, S. B., Loftus, J. and Kihlstrom, J. F. (1996). Self-knowledge of an amnesic patient. *J. Exp. Psychol. Gen.* 125, 250.
- Internal documents: `docs/SINTESI_V3.md`; `docs/WHITEPAPER_NADIRION.md` (Synthesis v2).

How to cite

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Nadirion technical report, not peer-reviewed. The criteria of every test were written before running it; negative results are reported like positive ones. The tests measure functional roles.