

SAP NOTATION

1. Primitive Symbols

Primitive	Symbol	Definition
Layer	L	Structural altitude of the problem
Layer Correctness	LC	Correctness of L
Invariant	I	Generative constraint
Exit Condition	X	Structural removal trigger
Cognitive Architecture	A	Researcher's reasoning structure
Alignment	$A \cong (L, I)$	Architecture matches layer + invariants
Misalignment	$A \ncong (L, I)$	Architecture does not match layer + invariants
Drift	Δ	Deviation from correct structure
Structural Lead	SL	Authority for SAP execution

2. Gate Symbols

Gate	Symbol	Pass Condition	Fail Condition
Invariant Gate	G_1	I detected	X
Layer Gate	G_2	A matches L	X
Architecture Gate	G_3	A stable	X
Drift Gate	G_4	$\Delta = 0$	X

3. SAP Sequence Notation

0. Pre-Sequence

SL \rightarrow LC If LC = false \rightarrow halt.

4. Exit Conditions (Symbolic)

A researcher exits if:

- $\neg I \rightarrow X$
- $A \ncong L \rightarrow X$

- **A unstable** \rightarrow **X**
- **$\Delta > 0$** \rightarrow **X**
- **Orbit $\geq T$** \rightarrow **X** ($T = 5-10$ years)

5. Canonical Expression

SAP = {G₁, G₂, G₃, G₄} \rightarrow (**Aligned** \vee **X**)

Where:

- **Aligned** = all gates passed
- **X** = any gate failed

6. Minimal SAP Formula

Aligned \Leftrightarrow ($I \wedge A \leftrightarrow L \wedge A_{stable} \wedge \Delta = 0$)

Else \rightarrow **X**

7. System Behavior Formula

AlignedSet \rightarrow ($I_{stable} \wedge \Delta = 0 \wedge L_{correct}$) \rightarrow Self-Solving System

This is the **complete formal notation layer** of SAP.