

THE SINGLE MONAD MODEL / DUALITY OF TIME THEORY

Start here: a guide to SMM and DTT

A guided introduction to the question at the heart of this project: how could one generative source give rise to spatial relations, matter, and the passage of observable time?

Complete printable foundation guide
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16 October 2026

<https://www.smonad.com/start-here/index.html>

The central idea

SMM supplies the common-source proposal. DTT develops the distinction between inner generation and outer completion. The research connects these ideas to explicit operations, retained records, mathematical structures, and physical readouts.

Contents

1. Begin with the question	2
2. Two temporal roles in one process	2
3. A first worked example	3
4. What the six inner levels mean	4
5. How the parts of the programme connect	5
6. How to read a result on this website	5
7. Choose a route through the site	5
Further reading	6

1. Begin with the question

Ordinary descriptions of motion begin with objects, positions, and a time coordinate. SMM/DTT asks a prior question: what process makes those objects and spatial relations available in the first place? In this programme, a completed spatial configuration is something to explain. The investigation therefore begins with generation, the retention of distinctions, and the rules that allow one configuration to be compared with another.

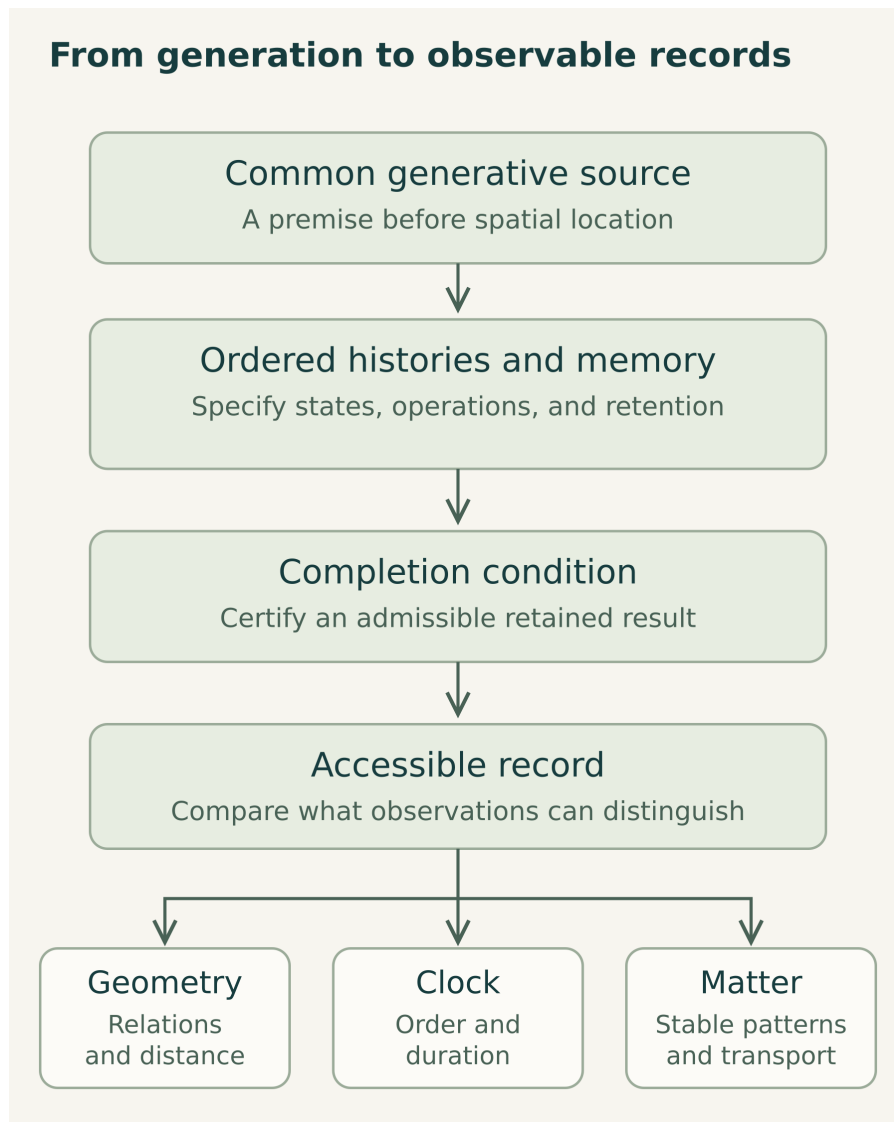
The **Single Monad Model** proposes a common origin for observable multiplicity. “Monad” refers to that proposed source; it does not mean a small particle sitting at the centre of an already existing space. The **Duality of Time Theory** distinguishes the organization of generation from the order in which completed results become available. These two temporal roles motivate a research programme rather than a second ordinary clock placed beside the first.

A reader can enter through philosophy, mathematics, or physics. The philosophical question concerns unity and multiplicity. The mathematical question asks which structures follow from stated operations. The physical question asks how those structures correspond to actual preparations, clocks, distances, and particles. Moving between these questions requires an explicit argument at each step.

2. Two temporal roles in one process

Imagine a process that prepares a result through several internal operations and exposes the result only after a completion condition is met. Substantial internal activity can occur while the accessible record remains unchanged. When a new record is retained, an observer can distinguish a new event. DTT uses this difference between formation and completed availability as its starting point.

A manuscript being composed before a finished paragraph is saved offers a useful everyday analogy. It shows why internal work and accessible versions need not coincide. The physical model must go further: it must identify what plays the roles of working state, memory, completion condition, and observer. A familiar analogy does not establish that nature uses the same mechanism.



A conceptual dependency diagram. The common source is a premise; the intermediate operations and readouts are ingredients to specify and connect. The diagram does not place the source inside a pre-existing spatial arena.

[Open the full-size diagram →](#)

The key vocabulary is therefore compact: a history is an allowed sequence of operations; a record is information retained for observation; completion is the rule that makes a result available; and a clock reading is a physical observable used to compare durations. Record order alone does not yet supply a duration in seconds.

3. A first worked example

Consider an internal phase with four positions, $q = 0, 1, 2, 3$. A fixed update advances q by one, returning to zero after four steps. Let a record register m increase only on that return. The same update then supports two descriptions: four elementary internal advances and one new completed record.

$(q,m) \rightarrow (q+1,m)$ for $q < 3$;
 $(3,m) \rightarrow (0,m+1)$.

Illustrative discrete update. The register is part of the state; it is not an unexplained external observer.

Starting at $(0,0)$, the states are $(1,0)$, $(2,0)$, $(3,0)$, and $(0,1)$. The record m is unchanged during the first three advances. After completion it distinguishes the new event. This is an exact example of a process with internal and recorded order, but its four-step rule and register behaviour were chosen as inputs.

A physical implementation must also explain the register's capacity and the mechanism that protects its contents. An indefinitely growing mathematical counter assumes indefinitely available memory. A finite device has a finite retention window or must specify what is erased, exported, or overwritten. These questions make the example more informative: they identify the work needed to turn a diagram of time into a dynamical model.

4. What the six inner levels mean

The current nested-stage interpretation assigns six inner functional roles to the construction of spatial records, with an outer completion as a seventh role. Higher stages depend on completed lower-stage activity. The levels are therefore a hierarchy within generation; they are not six independently adjustable time coordinates.

One illustrative paired readout has ranks 1, 1, 2, 2, 3, 3. A first channel opens a direction and its partner supplies an opposite contribution in that direction; the next pair opens a second direction, then the final pair a third. The detailed DTT guide shows a finite counter example, including what is assumed in that pairing and what the rank calculation actually proves.

It is helpful to distinguish realizing this hierarchy from proving that it is necessary. A realization gives an explicit model with the intended behaviour. Necessity would show that every model satisfying the stated source principles must have the relevant structure, or that specified alternatives are excluded. Both are useful results, but they answer different questions.

5. How the parts of the programme connect

From a conceptual question to a mathematical task

Question	The connection to investigate	Where to continue
Why is there multiplicity?	One source generates distinguishable histories and retained relations.	The SMM guide
Why do events appear ordered?	Completed records support an availability order and a calibrated clock.	The DTT guide
Why use complex amplitudes?	An oriented real dynamics can constrain compatible phase structures.	Real-commutant phase selection: a paper guide
How could space emerge?	Record relations must select locality, dimensionality, distance, and propagation.	Why local geometry can be statistically rare
What could fix a constant?	A structural construction must connect to a normalized physical response.	The constants programme

These questions are connected without being interchangeable. A three-dimensional algebraic readout is not yet a metric space with stable local matter. A clock variable is not yet a universal physical time standard. A finite integer count is not yet a measured interaction strength. The research becomes stronger when the same source law constrains these quantities together.

6. How to read a result on this website

Look first for the input data. Which state space, update, observer, or algebra is being assumed? Next identify the exact conclusion. Does it concern an equivalence relation, a dimension, a spectrum, a response, or an observable protocol? Finally ask what connects the mathematical object to a physical measurement. This three-step reading method prevents a useful construction from being mistaken for a broader claim it does not establish.

For example, a selected counting rule can give 137 exactly. To identify its reciprocal with an electromagnetic coupling, the model must also select the response operator, the source normalization, and the matter interaction. The [research guide](#) works through why this extra bridge matters. The ideal vacuum label α_0 is also distinct from assigning a value at a particular renormalization scale.

Published papers, explanatory articles, and working-draft developments have different roles. A paper is the source for its stated theorem. A guide helps make the argument accessible. A draft can explore an unfinished extension. Use the [papers catalogue](#) and each article’s references to locate the relevant source and version.

7. Choose a route through the site

For a first conceptual reading: continue to the SMM guide, then DTT, then the postulate. Read the examples before following the notation. The glossary is designed to be used alongside those pages.

For a mathematical reading: start with histories and observable equivalence, then phase selection, geometry, clocks, and response. Keep track of the assumptions that are carried from one construction into the next.

For the books and historical motivation: use the historical route and the book guides. They provide the setting for the source idea and renewed creation, while the technical articles describe later mathematical developments.

The [expanded reading paths](#) give ordered article sequences, prerequisites, and a specific question to answer at the end of each route. You can stop after an introductory route or continue into the detailed derivations without losing the thread.

Further reading

Continue with the individual articles and their source references.

- [The Single Monad Model of the Cosmos](#)
Introduce the Single Monad Model as a proposal connecting one generative source with the many events of experience. Set out its vocabulary before approaching its physical interpretations.
- [The Principle of Ever-renewed Creation](#)
Introduce ever-renewed creation as a central motivation of the Single Monad Model. Ask how the idea might be expressed through histories, completed records, and observable persistence.
- [One action, two temporal roles](#)
Explain the draft's same-cycle foundation: inner action is primitive, while outer record order comes from completed observable returns. Neither role automatically supplies a second readable laboratory clock.
- [When two histories count as the same observation](#)
Introduce completion and observational equivalence as distinct ways of identifying histories. Explain why the tests available to an observer determine which differences survive.
- [Six inner stages and one publication interface](#)
Explain the hierarchy of readout ranks 1, 1, 2, 2, 3, 3 followed by completion. These are nested functional roles rather than six independently readable temporal coordinates.
- [Completion, commutants, and positive frequency](#)
A reading guide to the published paper's relationship between completion principles, real representations, and positive-frequency geometry. Focus on the theorem assumptions before discussing physical interpretations.
- [Real-commutant phase selection: a paper guide](#)
Introduce the paper's phase-selection question in real Hilbert representations. Prepare an accessible route from the commutant to compatible complex structures and their physical interpretation.
- [Temporal asymmetry: reading the published model](#)
A reading guide to the published temporal-asymmetry model. Organize its geometrical assumptions, reduction mechanism, and interpretation before comparing it with later working drafts.
- [The DoT postulate: a compact reading route](#)
Introduce the short postulate presentation and turn its proposed consequences into a list of questions to trace through later technical work.

Continue the connection. Follow the next guide, or return to the reading paths.

Read the SMM guide →