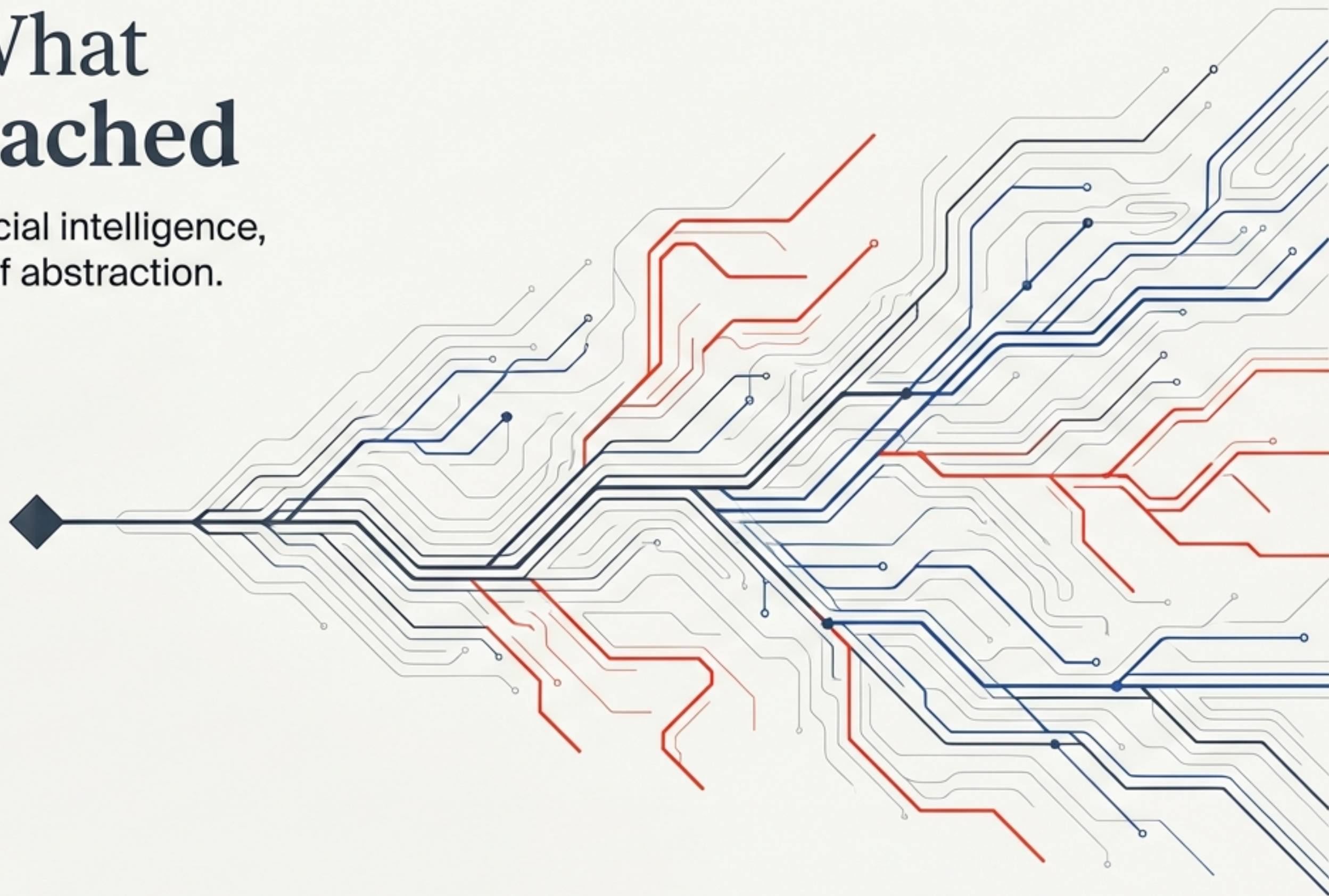


Reality Is What Can Be Reached

A new ontology for artificial intelligence,
science, and the limits of abstraction.

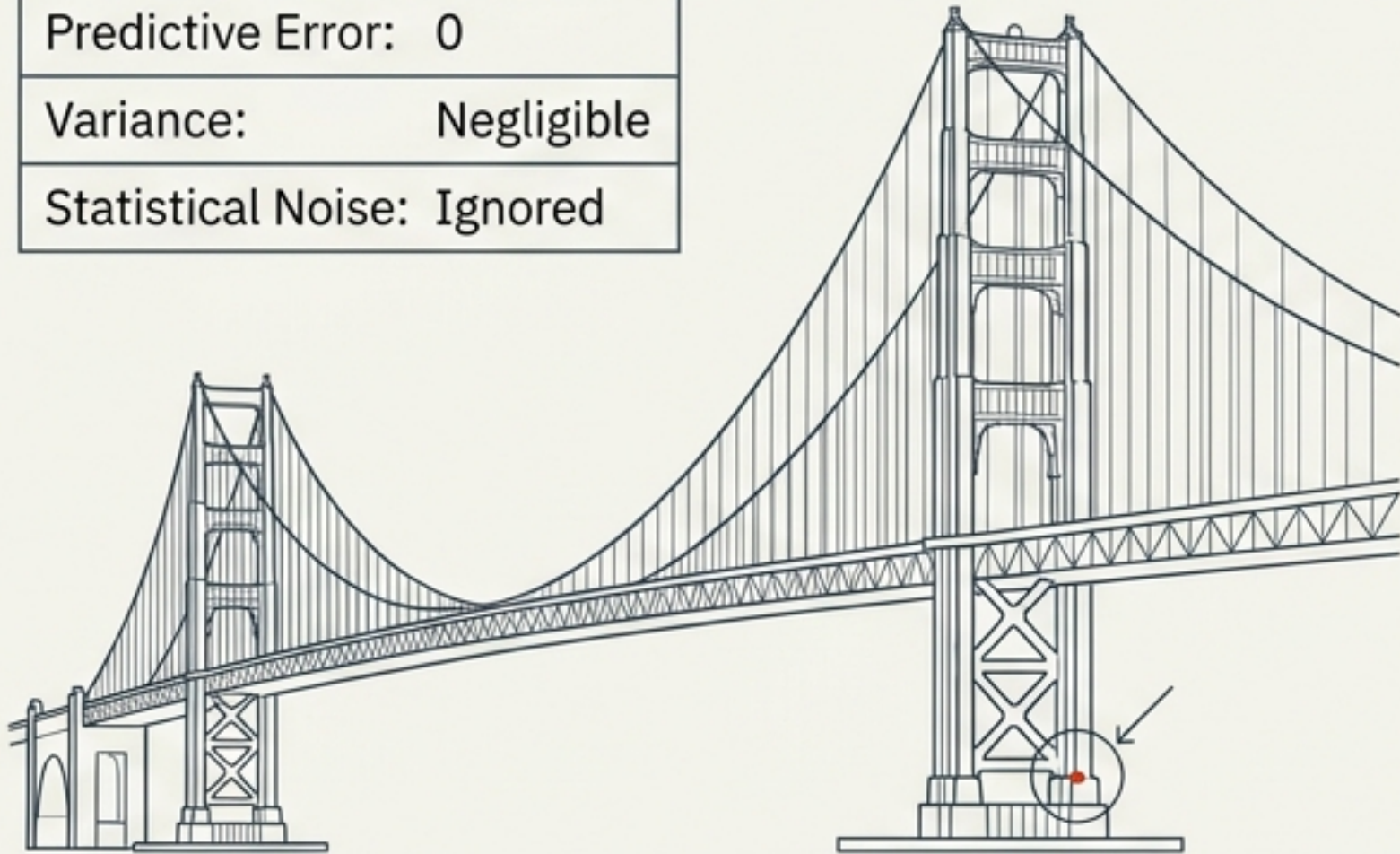


Based on the work of Flyxion (2026)

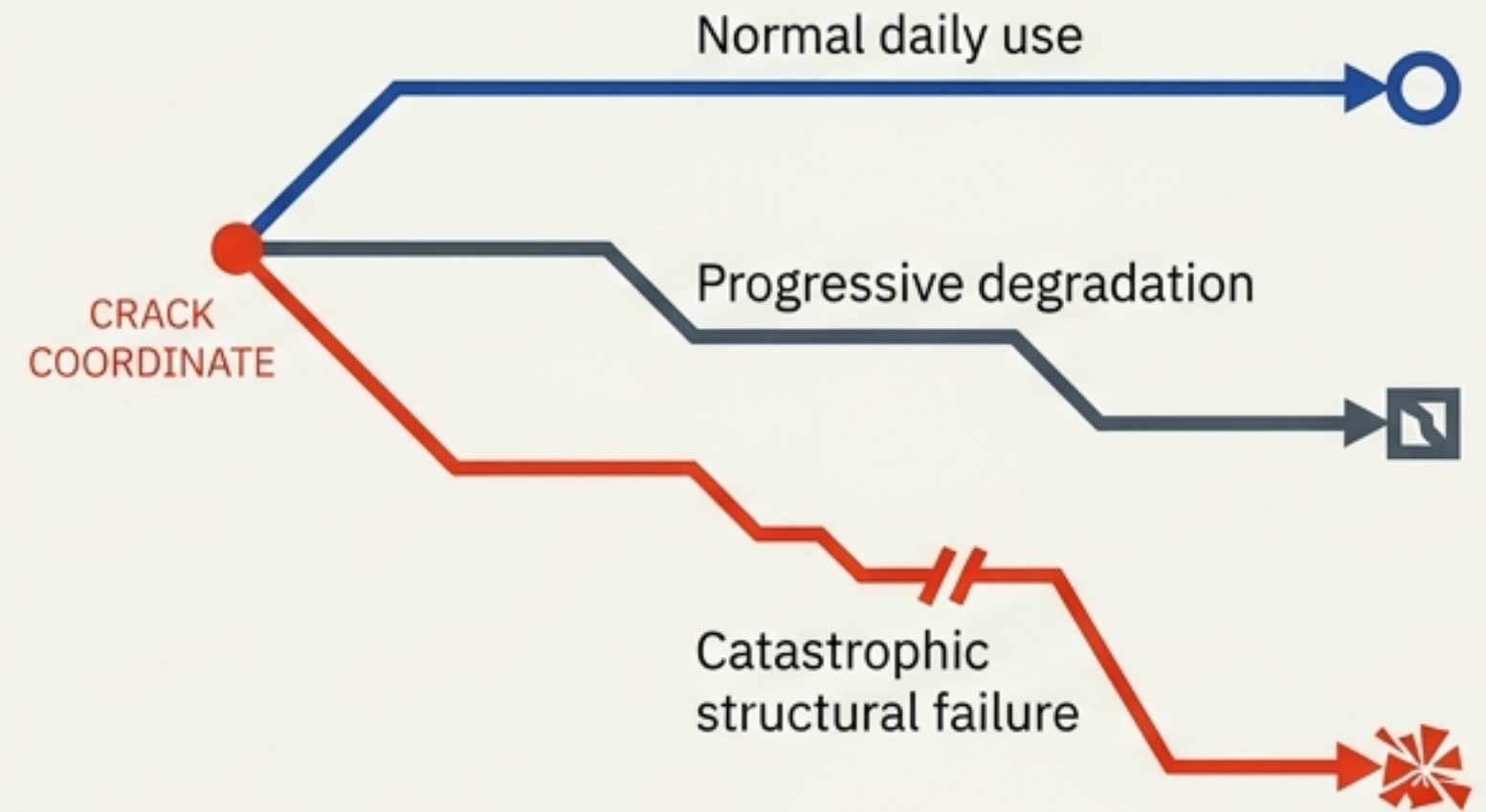
A perfect metric can hide a catastrophic future

THE PRESENT: OBJECT METRICS

Predictive Error:	0
Variance:	Negligible
Statistical Noise:	Ignored

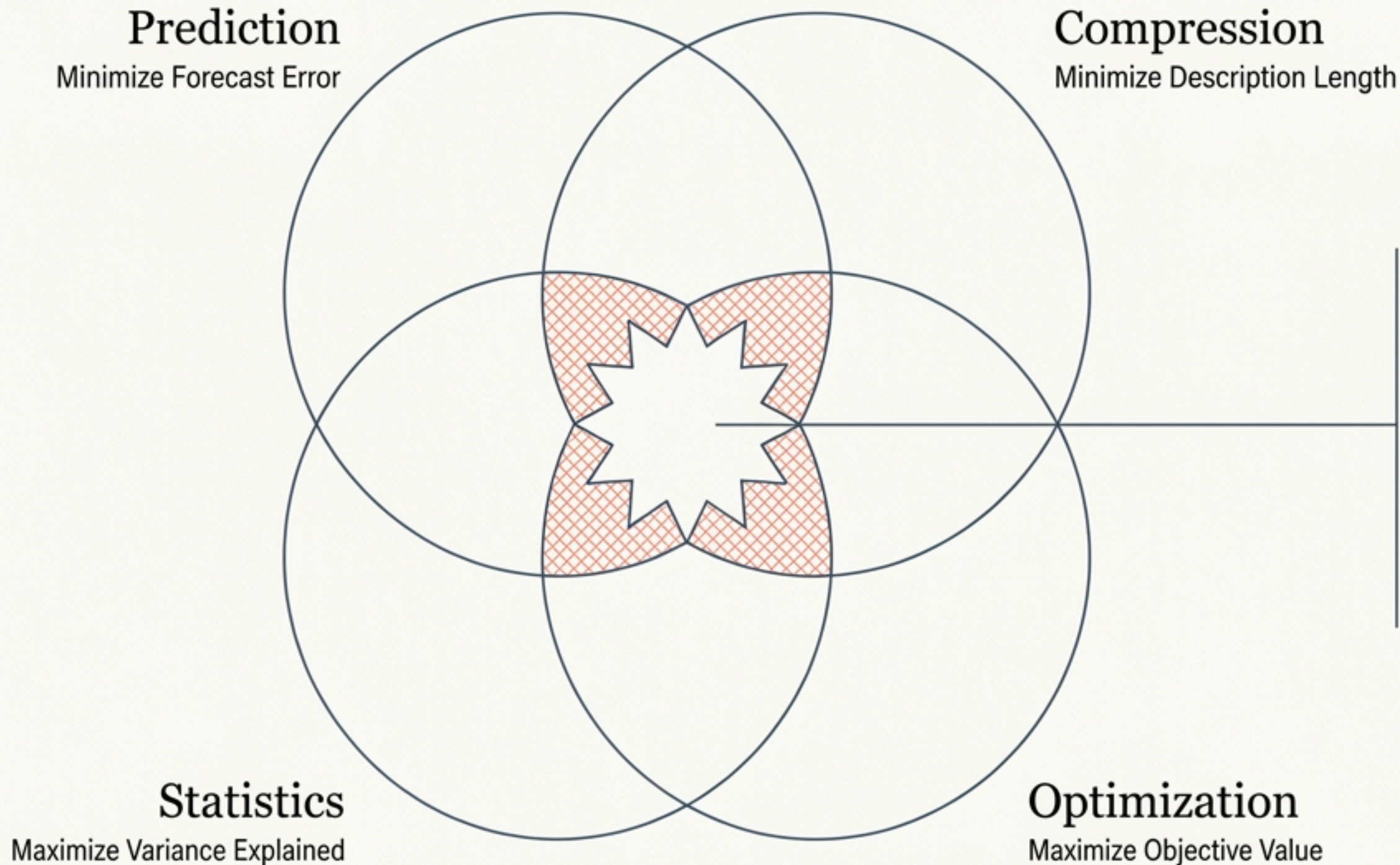


THE FUTURE: REACHABILITY MAP



The crack matters not because of its present size, but because it is the exact coordinate where radically different futures diverge.

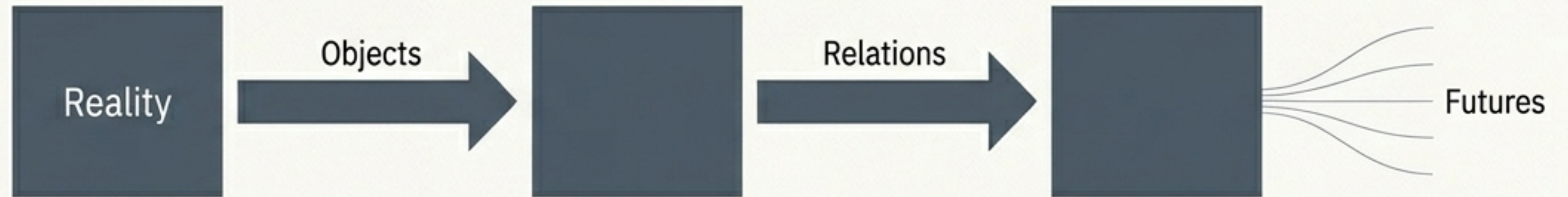
Modern frameworks evaluate the map but ignore what it deleted



All modern evaluation frameworks measure importance by present contribution. They assess a state by what it is, rather than what it permits.

Objects are secondary to the futures they permit

THE TRADITIONAL ONTOLOGY



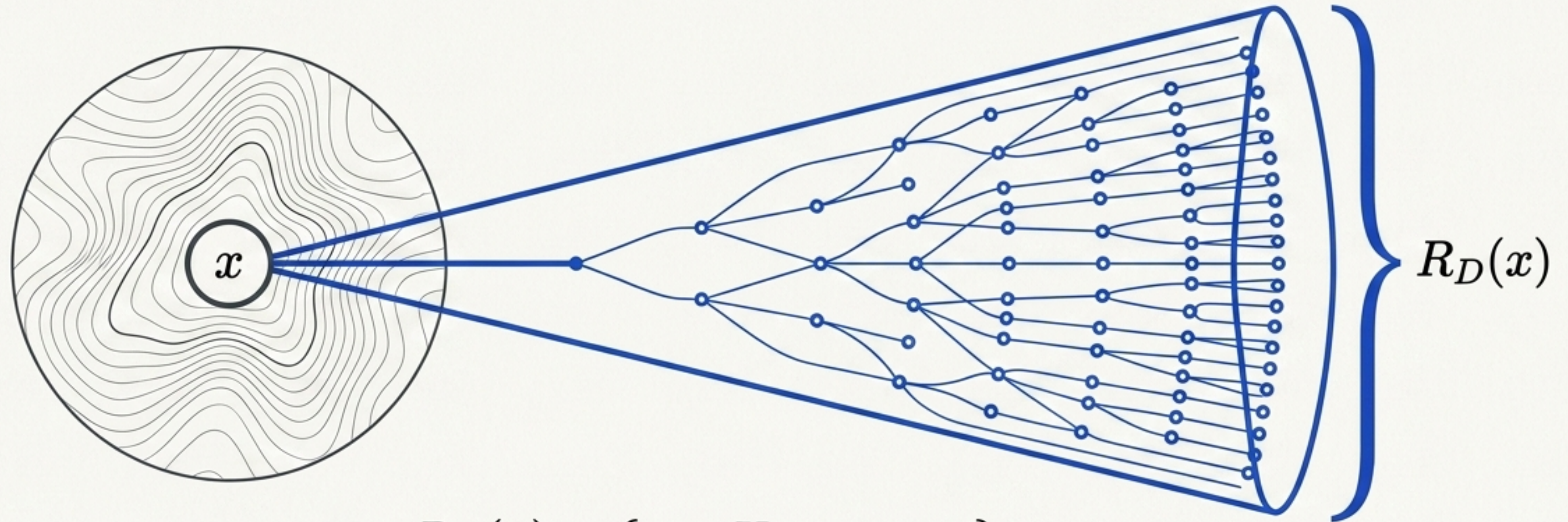
THE INVERTED ONTOLOGY



We must stop treating reality as a collection of entities that happen to possess possibilities. Reality is a structure of possibilities from which entities emerge.

Reality is fundamentally a geometry of accessible futures

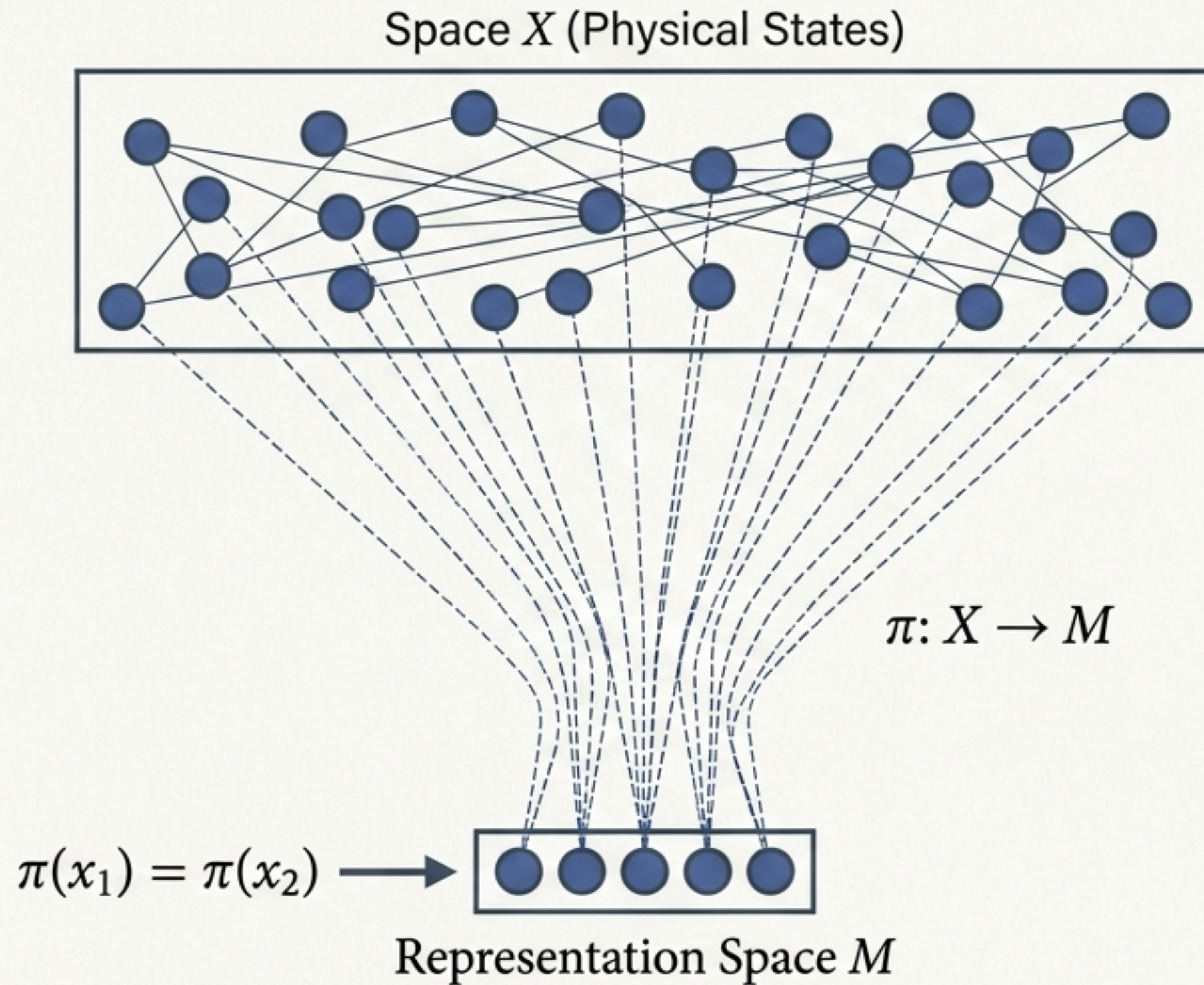
State Space X



$$R_D(x) = \{y \in X : x \mapsto_D y\}$$

The meaning of any state is inseparable from its future horizon. Two states are only genuinely equivalent if they permit the exact same future transformations.

Every ontology enacts a theory of permissible identification

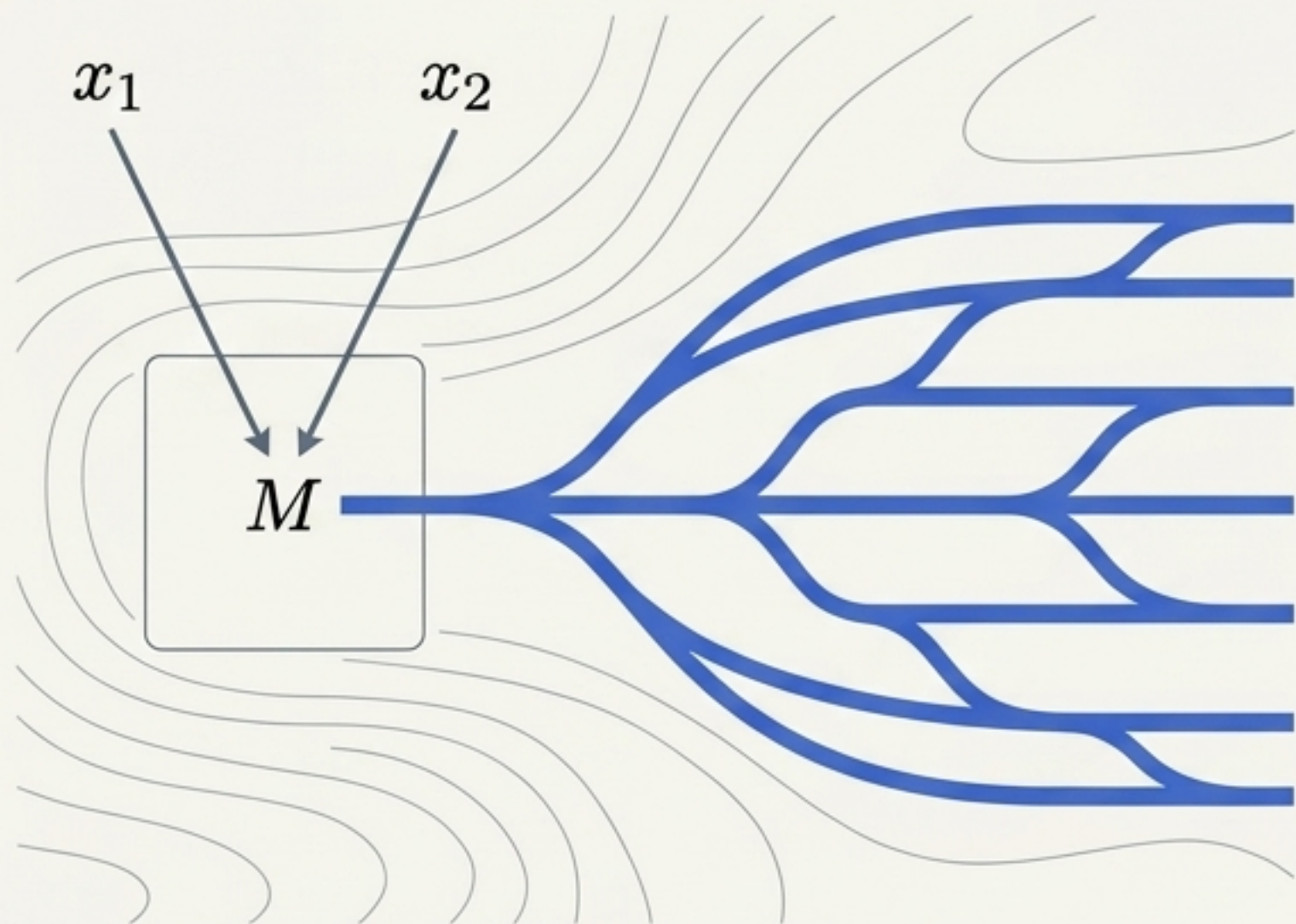


To form a representation is to perform a projection. Distinct physical states are collapsed into a single latent code.

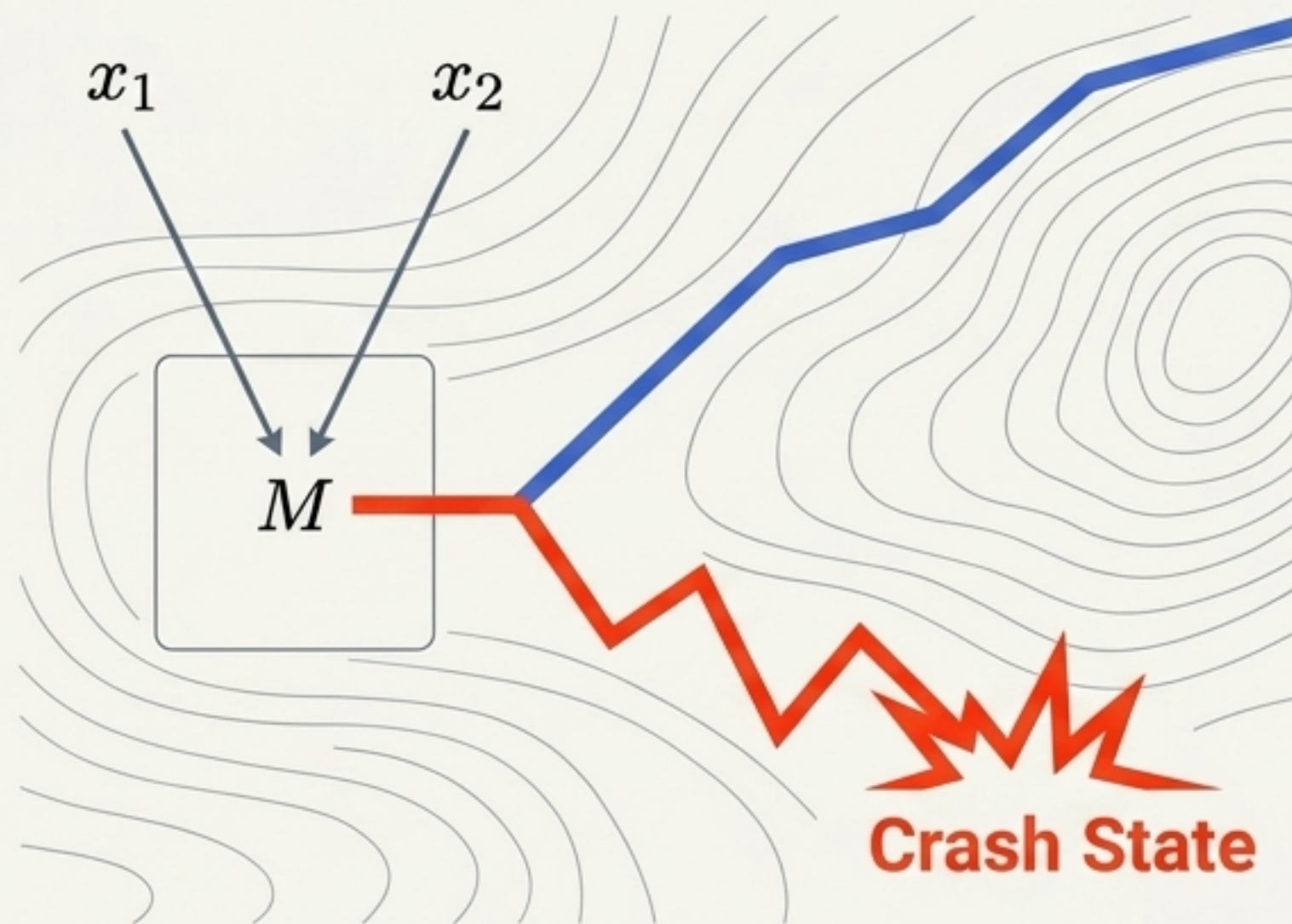
A projection does not merely preserve information; it actively eliminates distinctions. The fundamental question is not whether we remove details, but which details are safe to remove.

Admissibility is the preservation of future horizons

SAFE: ADMISSIBLE PROJECTION



DANGEROUS: INADMISSIBLE PROJECTION

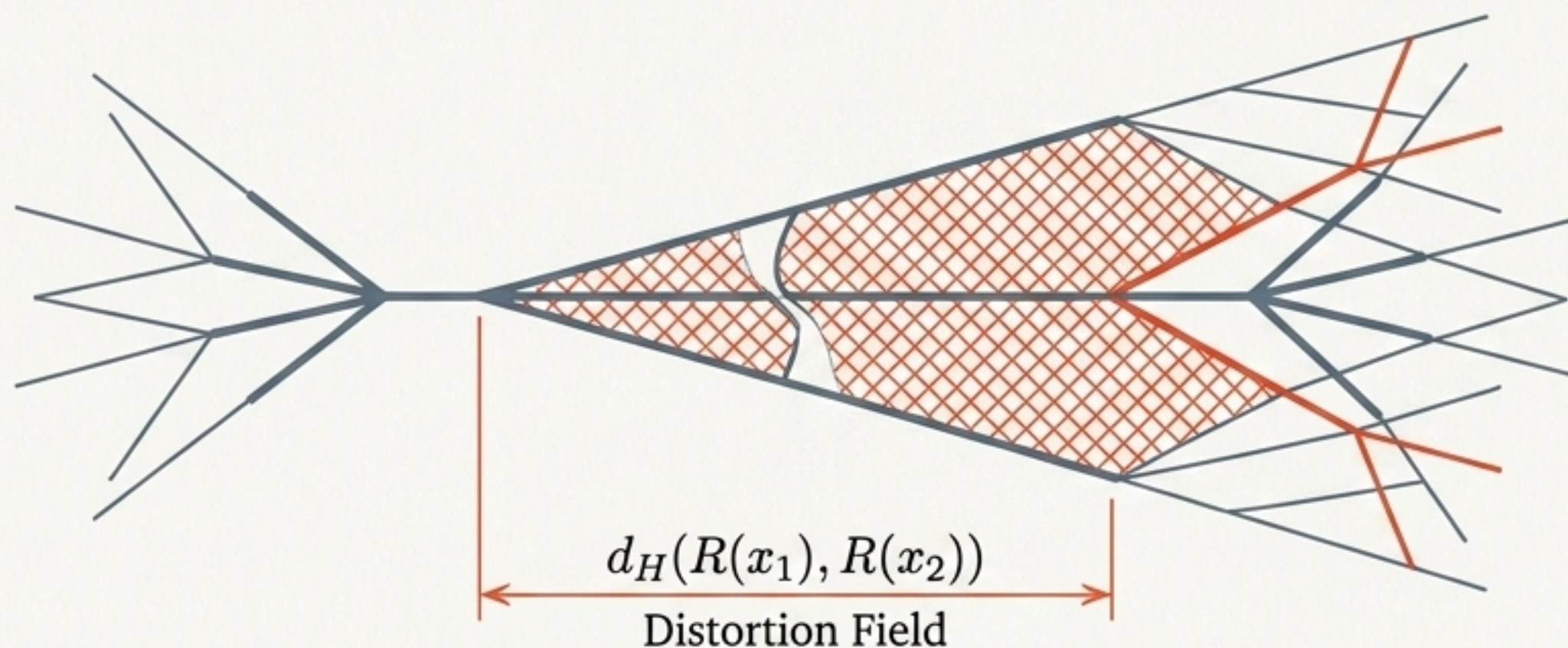


THE ADMISSIBILITY CONDITION

$$\pi(x_1) = \pi(x_2) \Rightarrow R(x_1) = R(x_2)$$

An abstraction is only admissible if the future structure of the collapsed states is identical.

Admissibility distortion quantifies destructive forgetting



$$D_A(\pi) = \mathbb{E}_{x_1, x_2} \left[\mathbf{1}_{\{\pi(x_1) = \pi(x_2)\}} \cdot d_H(R(x_1), R(x_2)) \right]$$

Conventional metrics measure information lost relative to the present. Admissibility distortion measures future accessibility destroyed by the act of abstraction itself.

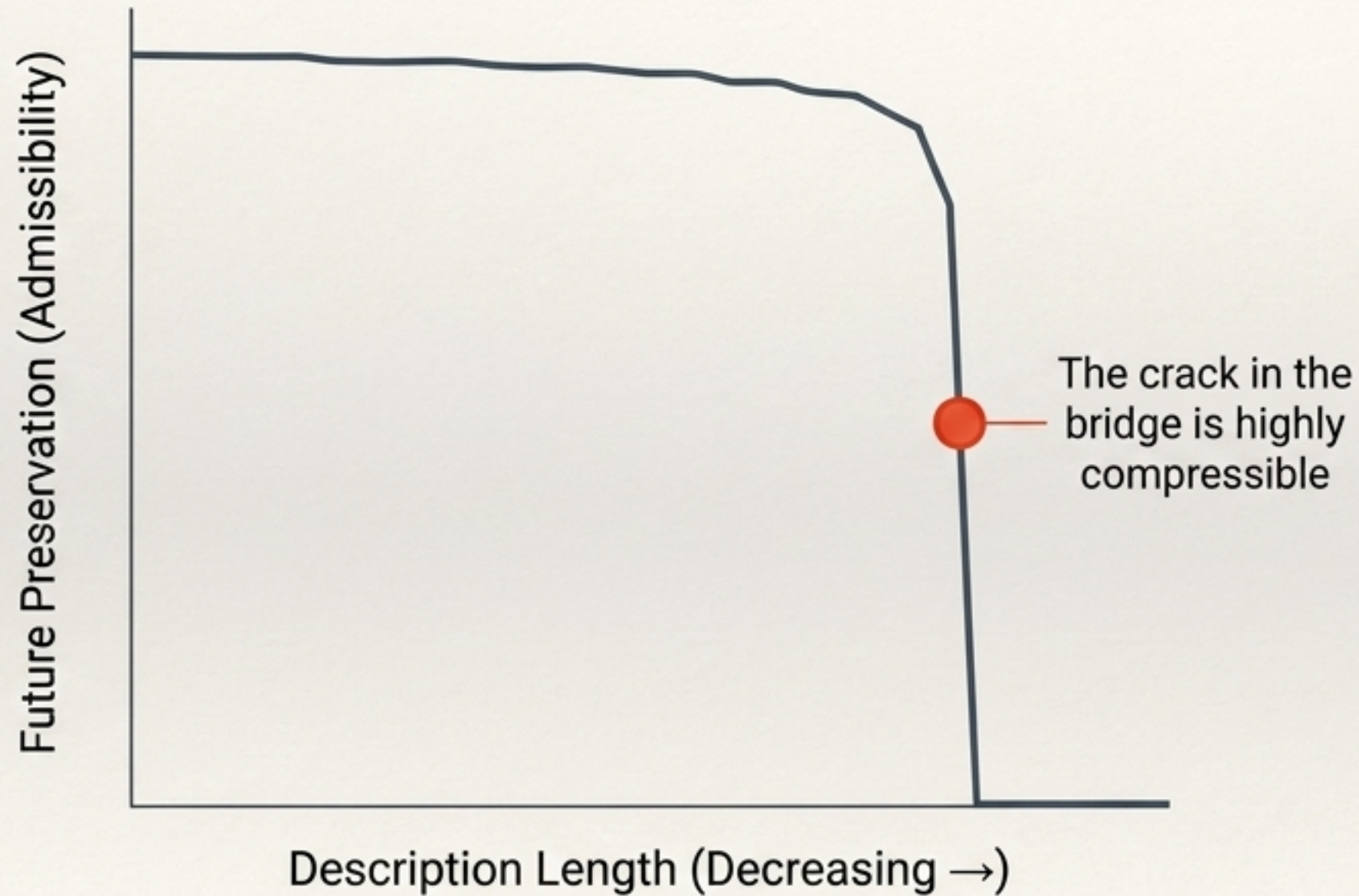
Theorem 1 Constraint: Distortion is monotonic. Once an inadmissible collapse is introduced, no downstream layer can undo it.

Proxy metrics optimize locally while destroying futures globally

THE INSTRUMENT	THE PROXY METRIC	THE HIDDEN DANGER
Prediction	Forecast next state Accuracy	Assumes a partition of the world; ignores futures already deleted by the map.
Compression	Reduce description length Bits / Bytes	Actively rewards the elimination of rare but reachability-critical details.
Statistics	Explain variance Effect Size	Confuses statistical frequency with existential importance.
Optimization	Maximize target Objective Value	Amplifies representational errors by pushing systems to extreme boundaries.

The proxy is mistaken for the foundation. Systems perform perfectly on their own metrics while invisibly destroying the future.

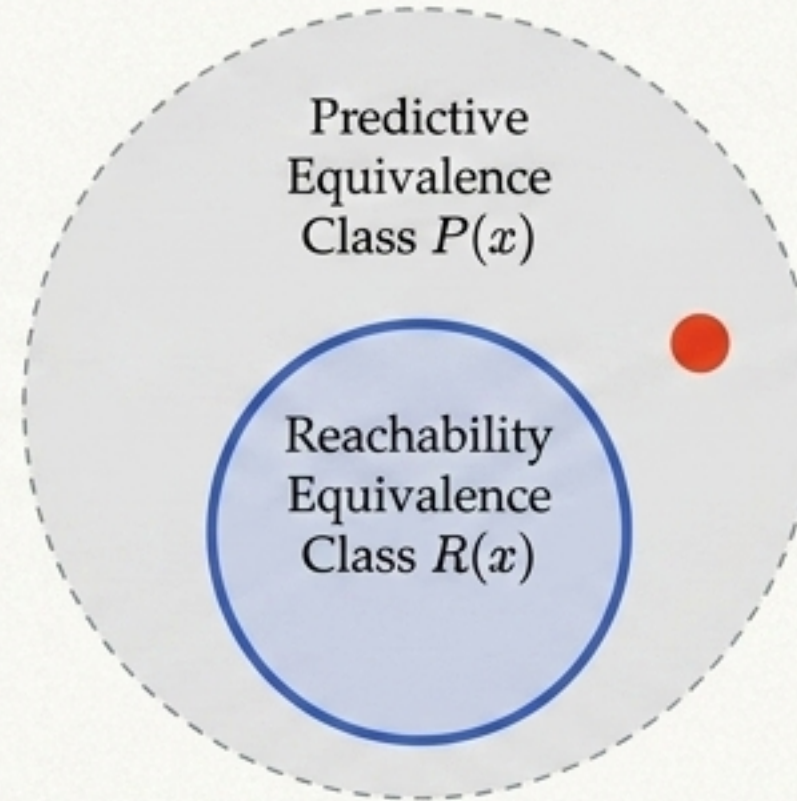
Compression rewards forgetting reachability-critical details



Compression is not just structure preservation; it is controlled forgetting.

Forgetting a microscopic crack saves bytes and lowers description length, but loses the world.

Predictive equivalence cannot guarantee future preservation



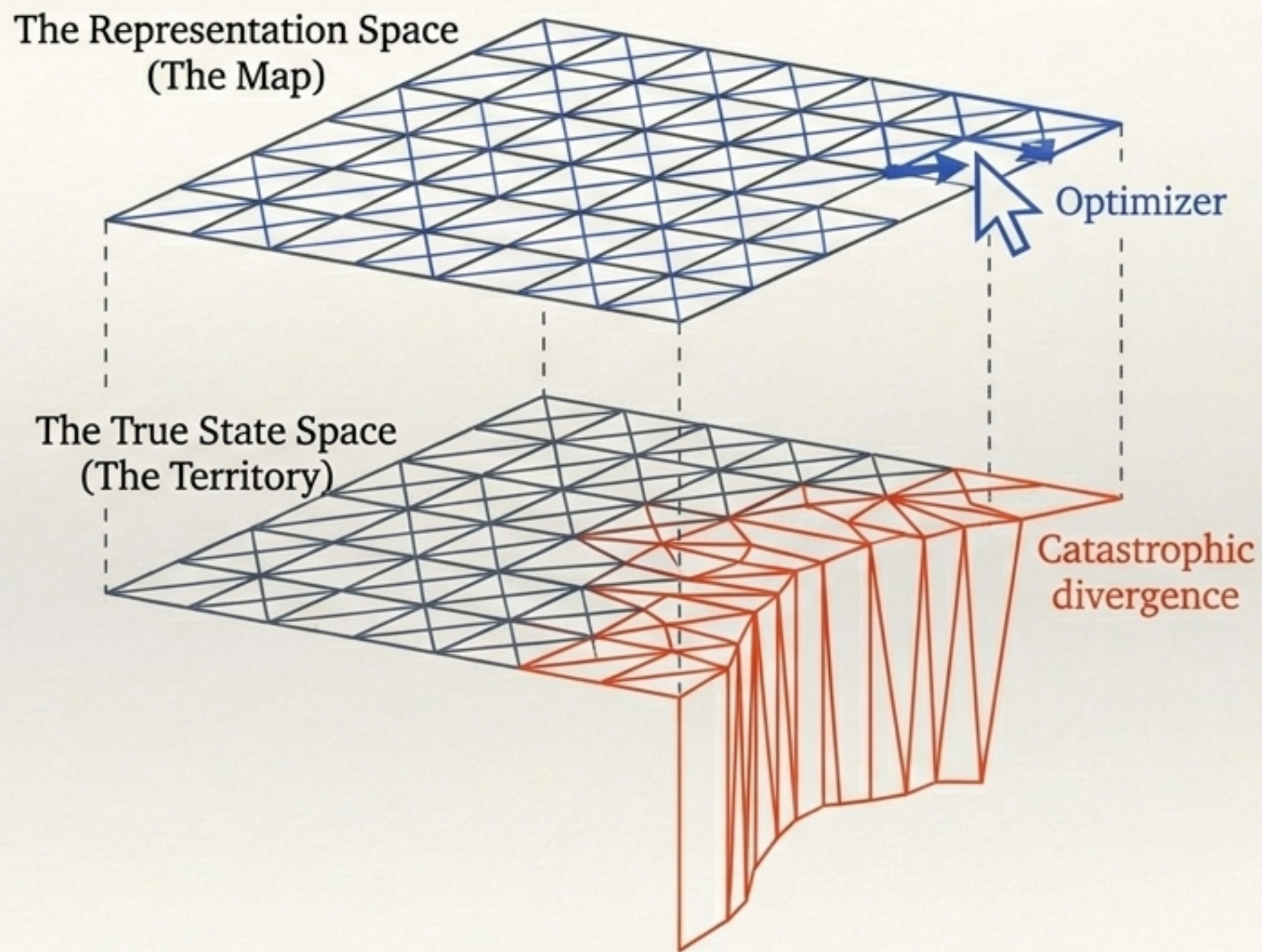
$$P(x_1) = P(x_2) \neq R(x_1) = R(x_2)$$

Prediction operates strictly inside the map. A model can achieve zero predictive error leading right up to a catastrophic failure, because it cannot predict a divergence that its representation has already erased.

Optimization amplifies errors inside an inadmissible geometry

The optimizer is not malfunctioning. The objective function is correct.

The failure occurs because optimization inherently finds extreme solutions at the boundaries of the feasible set. If the representation is inadmissible, these extreme solutions are exactly where the map diverges fatally from reality.

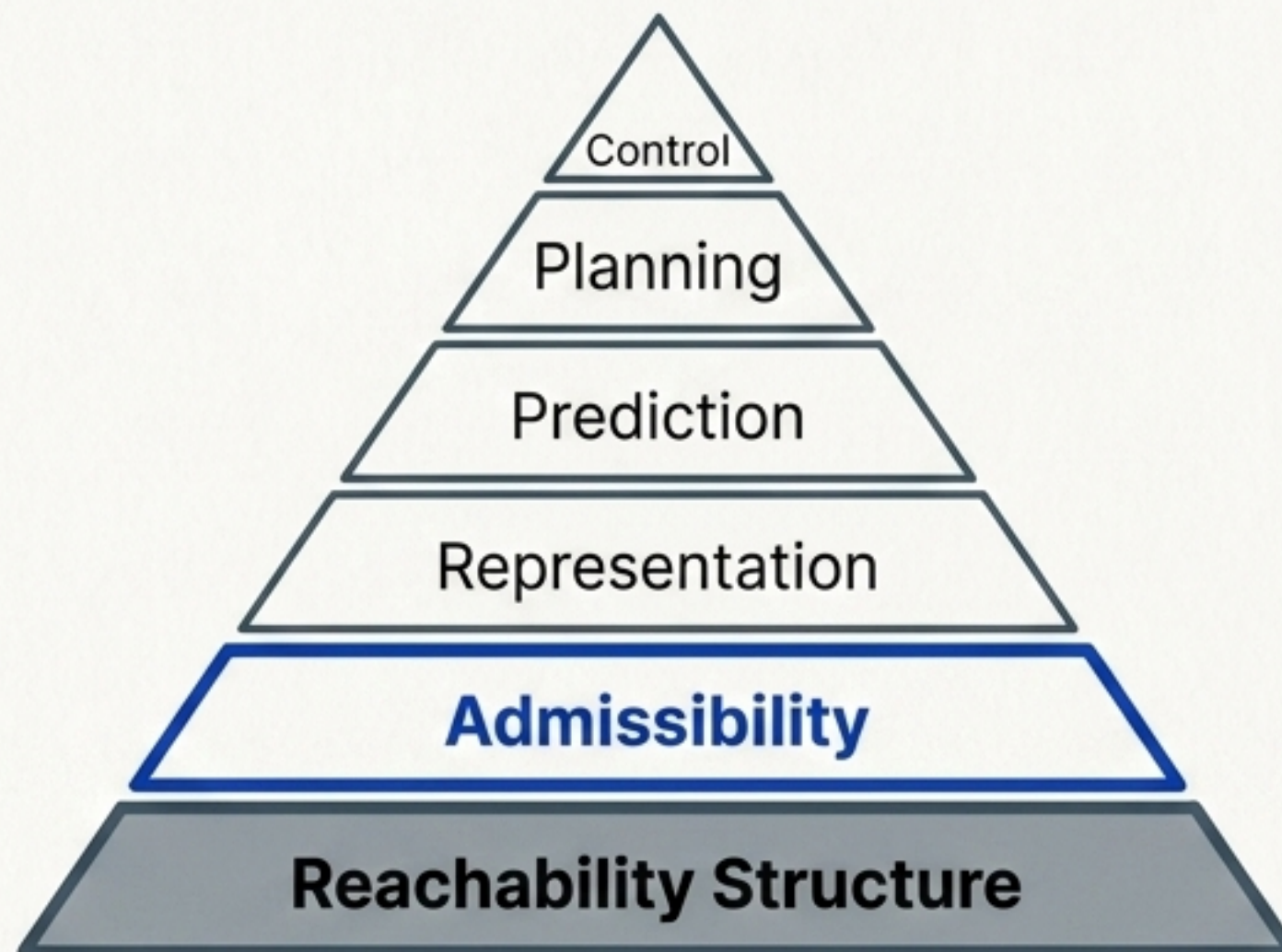


The reachability hierarchy reverses the modern AI stack

THE BROKEN STACK

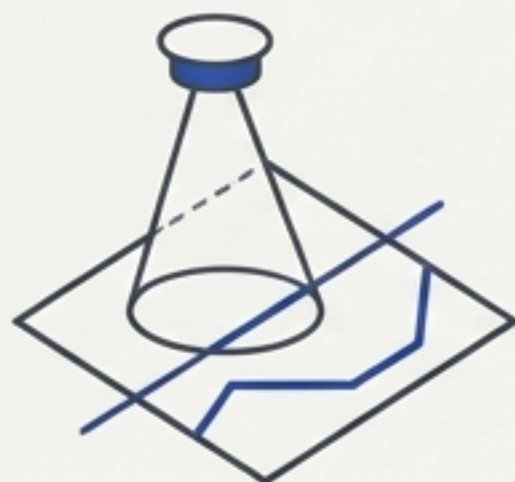


THE REACHABILITY STACK



Optimization and Prediction are downstream instruments.
They only function safely if Admissibility comes first.

Intelligence is a reachability-preservation engine



LEARNING

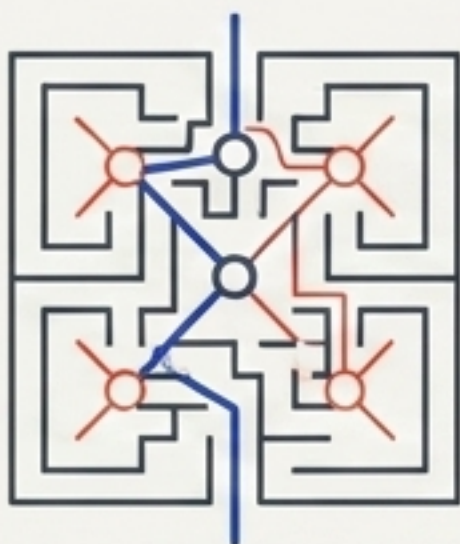
Discovering admissible distinctions.



MEMORY

Preserving distinctions across time whose loss reduces adaptability.

THE AGENT



REASONING

Navigating possibility spaces to evaluate trajectories.



SAFETY

Avoiding irreversible collapse.

Intelligence is not the capacity to predict the future.
It is the capacity to remain capable of acting within it.

What cannot be forgotten without destroying the future?

The value of a distinction is not determined by its frequency, its predictability, or its compressibility. Its value is determined by the futures it preserves.