There are two non-hierarchical modes of system interaction when talking about *de rerum ordine*.

Quatenus ad universum spectat
(Insofar as it concerns the Whole)

Quatenus ad partes spectat
(Insofar as it concerns the Parts)

The consistency of states is to be considered both with respect to the whole state and with respect to its parts.

Incoherence is the failure of constraint-consistency across scopes of a system

This failure of constraint-consistency is *ibidem* the case in which a constraint is respected at the level of the Meta-System, but not followed within the intra-system, the inter-system, or the supra-system.

Transitus non est regressus, cui aditus interclusus sit, sed ordinis mutatio, cui prior status iam non respondet.

A transition is not a return whose access has been blocked,

but a change of order to which the former state no longer corresponds

Grammatica Universa

III

De Transitu Sine Regressu

(On Irreversibility)

Auctor Rerum

Ex repetitione status mutatur.

- **Iteration**:

A single constraint state transition:

State$_{\text{(System A)}}$ → **Constraint** → **New State**$_{\text{(System A)}}$

- **Interaction:**

Occurs when the constraint-driven state changes emerge outside the originate system.

State $_{\text{(System A)}}$ → **Constraint**→ **New State**$_{\text{(System A+B)}}$

De Finibus:

- A boundary is the condition that allows relation *sine interitū*.
- The interface between a system and the environment, where interaction is possible
- Boundaries change role, not nature, across scales.
- Boundaries enable recursion by preventing collapse

Ubi fīnis abest, relatio in ambitum ruinit.

De Transitu Sine Regressu:

- When an iteration or interaction causes a state change in a system, the system cannot go back to its previous state *sine mutatione.*
- Even if the new state is – *indistinctus a priore* – from the old one this new state cannot be considered the same as the old state.
- Iteration preserves the system boundaries; interaction redefines them. That redefinition is irreversible - *sine regressu.*

Compensatione:

- Given persistence, the system compensates for the state change, whether this compensation is interpreted as positive or negative it's irrelevant for the system's persistence praeterquam terminatione.
- Compensation cannot happen in the same layer as the iteration or interaction. For compensation to happen, it needs to be integrated respecting the level of the iteration or interaction.

De Limitibus:

- limits are not individual
- limits are non-negotiable
- limits are not imposed

Limites nisi per consequentiis non inveniuntur.

- A structural condition that cannot be crossed without changing the system itself
- Crossing a limit does not extend a system.
- Crossing a limit ends the current configuration.
- A limit is absolute
- The impact of a limit depends on system scale

Conclusio:

Fines ordinant; Limites determinant