



The Truth Inside One



COMPLETE TO COLLECT

The Heyting Eye

Unique Jewel · 5 Glints

MEDITATIONS ON ONENESS

ARCHIVE FOLIO

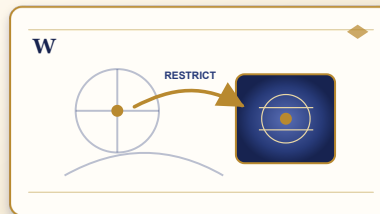
ONE FOLIO, TWO STAGES

The final Archive folio supplies one finite two-stage model. Everything used below is written on the page, and its logic belongs to this specific presheaf category.

*"A mark on the whole plate
survives every narrower view."*

— Vivian

ARCHIVE · TWO-STAGE PRESHEAF PLATE



THE TWO-STAGE CATEGORY

Let $\mathcal{C}$ have two objects:

- W : the whole plate;
- N : a narrow window.

Besides the identity arrows, there is one arrow $i : N \rightarrow W$.

A **presheaf** F reverses that arrow. For this category, a presheaf is exactly two sets and one restriction function:

$$F(W) \xrightarrow{r_F} F(N).$$

A map $\phi : F \rightarrow G$ is a pair of functions

$$\phi_W : F(W) \rightarrow G(W), \quad \phi_N : F(N) \rightarrow G(N)$$

that respects restriction:

$$\phi_N(r_F(x)) = r_G(\phi_W(x)) \quad \text{for every } x \in F(W).$$



A CANDIDATE TERMINAL PRESHEAF

A presheaf T is **terminal** if every presheaf F has exactly one map $F \rightarrow T$.

$$1(W) = \{\star\}, \quad 1(N) = \{\star\}, \quad r_1(\star) = \star.$$

1. PROVE TERMINALITY

Use separate paper for your verification.

Let F be any presheaf.

- Write the only possible component functions $\phi_W : F(W) \rightarrow \{\star\}$ and $\phi_N : F(N) \rightarrow \{\star\}$.
- Verify the restriction equation.
- Conclude that 1 is terminal in the category of these presheaves.

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Look inside the terminal object

SUBPRESHEAVES AS GLOBAL TRUTH VALUES

A **subpresheaf** S of 1 chooses subsets

$$S(W) \subseteq \{\star\}, \quad S(N) \subseteq \{\star\},$$

and must be closed under restriction. Here that means

$$\star \in S(W) \Rightarrow \star \in S(N).$$

Following standard categorical language, we call these subobjects of 1 **global truth values**.

Throughout this folio, **truth value** means one of these global truth values in this supplied two-stage presheaf category.

2. CHECK EVERY RAW PAIR

Pairs are always written in the order (W, N) . Complete both blank columns.

$S(W)$	$S(N)$	Restriction condition?	Valid global truth value?
$\emptyset$	$\emptyset$		
$\emptyset$	$\{\star\}$		
$\{\star\}$	$\emptyset$		
$\{\star\}$	$\{\star\}$		

3. ORDER THE VALID VALUES

Complete the chain on this page.

Order global truth values stage by stage:

$$P \leq Q \text{ when } P(W) \subseteq Q(W) \text{ and } P(N) \subseteq Q(N).$$

Put the three valid ordered pairs into the chain from least to greatest. Name the least value 0 , the middle value L , and the greatest value 1 .



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MEDITATIONS ON ONENESS

Internal logic at two stages

CARRY YOUR CHAIN FORWARD

Use the values $0, L, 1$ that you named in Part 3. Keep your completed chain visible, and continue to write every pair in (W, N) order.

THE LOGIC RULES

For global truth values P, Q , define AND and OR stage by stage. At either stage $K \in \{W, N\}$,

$$(P \wedge Q)(K) = P(K) \cap Q(K),$$

$$(P \vee Q)(K) = P(K) \cup Q(K).$$

Define $\neg P$ to be the **largest valid global truth value** Q for which

$$P \wedge Q = 0.$$

4–7. TEST THE LOGIC

Use separate paper for your computations and explanations.

- Flip presence and absence of $\star$ at both stages of your middle value L . Write the apparent complement, then explain why it is not a valid global truth value.
- Compute $\neg 0$, $\neg L$, and $\neg 1$. Justify each answer using all three possible values $0, L, 1$.
- Compute $P \vee \neg P$ for each $P \in \{0, L, 1\}$. The classical law of excluded middle says $P \vee \neg P = 1$ for every global truth value. Which value disproves that law here?
- Compute $\neg\neg L$. Compare it with L .

Scope note: these computations concern the global truth values and logic **internal to the one presheaf category defined on page 1**. They do not claim that ordinary reasoning—or the Manyfold as a whole—is three-valued.

