



# PATH TRACING AND SOURCE TRACING

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## Summary

This extension is for when you want to understand **how one factor connects to another through intermediate steps**.

Like most extensions, it is best thought of as:

1. **a filter** (select links that lie on some allowed path), plus
2. **an interpretation rule** (what it means to treat a “pathway” as evidence).

## The filter (links-table semantics)

Given one or more **start** factors  $S$ , one or more **end** factors  $T$ , and a maximum path length  $K$ :

- keep a link  $x \rightarrow y$  iff it lies on at least one directed path of length  $\leq K$  that starts in  $S$  and ends in  $T$
- (optional) if  $S$  is empty, interpret this as “paths that end in  $T$ ”
- (optional) if  $T$  is empty, interpret this as “paths that start in  $S$ ”

The key is: **path tracing is link-based**. It should not “fill in” extra links between surviving factors.

## Source tracing (single-narrative interpretation)

Plain path tracing can produce composite pathways stitched together across different sources.

“Source tracing” is a stricter interpretation: keep a link only if there exists at least one traced path in which **every link segment can be attributed to the same source** (a coherent within-source story).

## Modelling caution: order matters

Because path tracing is defined on the current links table, **upstream transforms change what counts as “the same label”** (zooming, removing bracket text, combining opposites, clustering,

etc.).

When you care about coherent pathways, a common conservative strategy is:

- do **source tracing first**
- then apply label-rewrite transforms (like Zoom) for presentation/summarisation