Destructing Path Function Products

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When you have a path:

$$f[g] <=> h$$

$f : A \rightarrow A$
$g : A \rightarrow B$
$h : B \rightarrow B$

The function `g` can also be a tuple of functions applied by duplicating the arguments:

$$f[g \, . \, dup] <=> h$$

$f : A \rightarrow A$
$dup : A \rightarrow (A, A)$
$g : (A \rightarrow B, A \rightarrow C)$
$h : (B, C) \rightarrow (B, C)$

A general structure of this kind can be represented in the asymmetric form `$g_{i \rightarrow n}$`:

$$f[g_{i \rightarrow n}] <=> h$$

It means that, although the same notation is used, there is a wider interpretation and the usage must be interpreted by "what would logically fit here" when solving a specific problem.

For example, a variable might have more than one sub-type:

$$a : [g_0] \, b_0 \wedge [g_1] \, b_1$$

This is the same as:

$$a : [(g_0, g_1) \, . \, dup] \, (b_0, b_1)$$