

# Funcons-beta: Linking \*

The P<sub>L</sub>anCompS Project

Linking.cbs | PLAIN | PRETTY

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## Linking

```
[ Datatype links
  Funcon initialise-linking
  Funcon link
  Funcon fresh-link
  Funcon fresh-initialised-link
  Alias fresh-init-link
  Funcon set-link
  Funcon follow-if-link ]
```

Meta-variables  $T <: \text{values}$

Datatype `links ::= link(_ : variables)`

Funcon `initialise-linking( $X : \Rightarrow T$ ) :  $\Rightarrow T$`   
 `$\rightsquigarrow$  initialise-storing( $X$ )`

`initialise-linking( $X$ )` ensures that the entities used by the funcons for linking are properly initialised.

Funcon `fresh-link( $T$ ) :  $\Rightarrow \text{links}$`   
 `$\rightsquigarrow$  link(allocate-variable( $T$ ))`

Funcon `fresh-initialised-link( $T, V : T$ ) :  $\Rightarrow \text{links}$`   
 `$\rightsquigarrow$  link(allocate-initialised-variable( $T, V$ ))`

Alias `fresh-init-link = fresh-initialised-link`

Funcon `set-link(_ : links, _ :  $T$ ) :  $\Rightarrow \text{null-type}$`

The value of a link can be set only once.

Rule `set-link(link( $\text{Var} : \text{variables}$ ),  $V : T$ )  $\rightsquigarrow$  initialise-variable( $\text{Var}, V$ )`

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\*Suggestions for improvement: [plancomps@gmail.com](mailto:plancomps@gmail.com).  
Reports of issues: <https://github.com/plancomps/CBS-beta/issues>.

*Funcon*  $\text{follow-link}(\_ : \text{links}) : \Rightarrow \text{values}$

*Rule*  $\text{follow-link}(\text{link}(\text{Var} : \text{variables})) \rightsquigarrow \text{assigned}(\text{Var})$

*Funcon*  $\text{follow-if-link}(\_ : \text{values}) : \Rightarrow \text{values}$

If  $V$  is a link,  $\text{follow-if-link}(V)$  computes the set value, and otherwise it evaluates to  $V$ .

*Rule*  $\text{follow-if-link}(\text{link}(\text{Var} : \text{variables})) \rightsquigarrow \text{assigned}(\text{Var})$

*Rule*  $\text{follow-if-link}(V : \sim \text{links}) \rightsquigarrow V$