


Hair:

$x[i] :=$ a subdued "out" contact with strand i ,
commutes with everything. 

$X[i] := \exp(x[i]).$

Primitives:

$Ar[i, j] :$
($i=j$ allowed)



Indices are never
0, except within
a scattering descriptor
!

$h \cdot Y[i, j, k]$
($i \neq j$, yet
 $i=k$ or $j=k$ is OK)




h stands for "hair",
a function of $x[i]$
and $X[i]$.

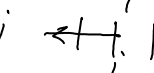
h · w A wheel.

ReducePrimitives [prims] applies \mathbb{IHX} to
all the Y 's in prims, so that in
 $h[l]Y[i, j, k]$, $i < j$ and
 l is never smallest.

$S[\{ Ar[0, i] \rightarrow p_1, \dots, Ar[i, 0] \rightarrow p_2, \dots \}]$

an explicit scattering descriptor, where

$Ar[0, i]$ is Arrow Head at i 

$Ar[i, 0]$ is Arrow Tail at i 

Scatter [prims, S[...]] scatters prims using the
given scattering descriptor.

$S[S[...], S[...]]$ composes scattering descriptors

$S[\text{Exp}[p]]$ computes the scattering descriptor of
 $\exp(p)$.

Flip [$i, S[...]$] Reverses strand i .

Tie [$i, j, S[...]$] concatenates $\xrightarrow{i} \xrightarrow{j}$ i followed
by j for S .

SnG [{ scattering } , glow] Scatter & Glow
descriptor

should have the exact same operators as S.