$$\daleth^1 : \cdots : \daleth^n \in R$$

$$R^n = \frac{\left(\beth^1 : \cdots : \beth^n\right)}{\beth^i \in R} \text{ free Mod}$$

$$\bigwedge^k R^n = \frac{\left(\beth^I : |I| = k\right)}{\beth^I \in R}$$

$$R \ulcorner R < \daleth^1 \cdots \daleth^n > \xleftarrow{\partial^0_\daleth} \bigwedge^0 R^n \xleftarrow{\partial^1_\daleth} \bigwedge^1 R^n \xleftarrow{\partial^k_\daleth} \bigwedge^k R^n \xleftarrow{\partial^{k+1}_\daleth} \bigwedge^{k+1} R^n \xleftarrow{\partial^{n-1}_\daleth} \bigwedge^{n-1} R^n \xleftarrow{\partial^n_\daleth} \bigwedge^n R^n$$

$$\daleth \overbrace{\left(\beth^J\right)_{|J| = k+1}}^{k+1}{}^{I} = \overbrace{\partial_\daleth \left(\beth^J\right)_{|J| = k+1}}^{I} = \sum_j^{N \sqcup I} \binom{j}{I} \daleth^j \; \beth^{I \cup j}$$

$$\partial_\daleth \left(\beth^j\right)_{j \in N} = \sum_j^N \daleth^j \; \beth^j \in < \daleth^1 : \cdots : \daleth^n > R$$

$$< \daleth^1 : \cdots : \daleth^n > R \sqsupset < \gimel^1 : \cdots : \gimel^n > R$$

$$\begin{array}{ccccccccc}
R \ulcorner < \daleth^1 \cdots \daleth^n > R & \xleftarrow{\partial^0_\daleth} & \bigwedge^0 R^n & \xleftarrow{\partial^1_\daleth} & \bigwedge^1 R^n & \xleftarrow{\partial^k_\daleth} & \bigwedge^k R^n & \xleftarrow{\partial^n_\daleth} & \bigwedge^n R^n \\
\downarrow & & \downarrow \bigwedge^0 \mathfrak{l} & & \downarrow \bigwedge^1 \mathfrak{l} & & \downarrow \bigwedge^k \mathfrak{l} & & \downarrow \bigwedge^n \mathfrak{l} \\
R \ulcorner < \gimel^1 \cdots \gimel^n > R & \xleftarrow{\partial^0_\gimel} & \bigwedge^0 R^n & \xleftarrow{\partial^1_\gimel} & \bigwedge^1 R^n & \xleftarrow{\partial^k_\gimel} & \bigwedge^k R^n & \xleftarrow{\partial^n_\gimel} & \bigwedge^n R^n
\end{array}$$

$$\gimel^i = \daleth^j \; {}_i\mathfrak{l}^j$$

$$\bigwedge^k R^n \leftarrow \bigwedge^k R^n$$

$$\overbrace{\bigwedge^k \mathfrak{l} \left(\beth^J : |J| = k\right)}^{I} = \beth^J \; \overbrace{{}_J\mathfrak{l}^I}$$

$$\overbrace{\bigwedge^1 \mathfrak{l} \left(\beth^j\right)}^{i} = \beth^j \; {}_j\mathfrak{l}^i$$