<u>Splitting</u> differential <u>Cotor</u>:

$$(M \square_C R) \otimes (R \square_D N) = M \square_C R \square_D N$$

leads via the Kunneth theorem to

$$\mathrm{Cotor}^C(M,R) \otimes \mathrm{Cotor}^D(R,M) \xrightarrow{\alpha} \mathrm{Cotor}^{C,D}(M,R,N)$$ where

α is an isom. if the Cotors are free.

This corresponds to the <u>geometry</u>:

$$H\Omega X \otimes H\Omega X \to H(\Omega X \otimes \Omega X) \xrightarrow{\nabla} H(\Omega X \times \Omega X)$$

where ∇ is the Eilenberg-Zilber map.

<u>Collapsing</u> differential <u>Cotor</u>:

$M \square_D N = M \square_C C \square_D N$ leads to

$$\mathrm{Cotor}^D(M,N) = \mathrm{Cotor}^{C,D}(M,C,N)$$

which corresponds to the <u>geometry</u>:

$$P_R X \times_X P_L X \Rightarrow P_R X \times_X X \times_X P_L X = \widetilde{\Omega} X$$