we have $R^q \cong \bigoplus_k L^k P^{q-2k}$.

We shall show that

$$d_2 : E_2^{p,q} \longrightarrow E_2^{p+2,q-1}$$

is zero, with the proof for the higher d_r's being the same. Since

$$E_2^{p,q} = H^p(B, R^q)$$

and

$$L^k : E_2^{p,n-k} \cong E_2^{p,n+k}$$

is an isomorphism commuting with d_2, it will suffice to shows that $d_2 = 0$ on $E_2^{p,n-k}$.

If we show $d_2 = d_3 = \cdots = 0$, $E_2^{p,q} = E_3^{p,q} = \cdots = E_\infty^{pq}$.

$(n-k, \cdots, n-2, n-1, \underline{n}, n+1, n+2, \cdots n+k)$ covers all q's.

Once we prove that $d_2 = 0$ on $E_2^{p,n-k}$ for all p and $n-k$, $k \geq 0$, then by the following commutative diagram,

$$\begin{array}{ccc} E_2^{p,n-k} & \xrightarrow{L^k} & E_2^{p,n+k} \\ \cong & & \\ \downarrow d_2 & \circlearrowright & \downarrow d_2 \\ E_2^{p+2,n-k-1} & \xrightarrow[\cong]{L^k} & E_2^{p+2,n+k-1} \end{array}$$

$\Rightarrow d_2 = 0$ on $E_2^{p,n+k}$ for all p and $n+k$, $k \geq 0$.

Passing to the Lefschetz decomposition, we consider.