The differentials d_1', d_2', $\cdots$ are induced from $L(v)$.
If we can show that $d_1' = d_2' = \cdots = 0$, then

$$'E_1^{p,q} \cong {}'E_2^{p,q} \cong \cdots \cong {}'E_\infty^{p,q} = 0 \text{ , unless } p+q=n$$

by the previous spectral sequence. This proves the theorem.

⌜ If we show that $d_1' = d_2' = \cdots = d_r' = \cdots = 0$, then

$$'E_1^{p,q} \cong \cdots \cong {}'E_\infty^{p,q} = \mathbb{H}^{p+q}(M, \Omega^{n-\cdot}) = H^q(M, \Omega^{n-p})$$

By the previous spectral sequence

$$''E_2^{p,q} = 0 \quad \text{unless } p=0 \text{ and } q=n,$$

$$''E_2^{p-2,q+1} \longrightarrow {}''E_2^{p,q} \longrightarrow {}''E_2^{p+2,q-1} \Rightarrow \begin{array}{l} ''E_3^{0,n} = {}''E_2^{0,n} \\ ''E_3^{p,q} = 0 \quad \text{if } p \neq 0 \text{ or } q \neq n \end{array}$$

$$0 \longrightarrow {}''E_3^{0,n} \longrightarrow {}''E_3^{3,\cdot} \searrow 0 \quad \Rightarrow \quad ''E_3^{0,n} = {}''E_4^{0,n} = \cdots = {}''E_\infty^{0,n}$$

otherwise 0.

$$\Rightarrow \quad ''E_\infty^{p,q} = \begin{cases} H^p(M, \underline{Ext}_{\mathcal{O}}^q(\mathcal{O}_Z, \Omega^n)) & \text{if } p=0 \ \& \ q=n \\ 0 & \text{otherwise} \end{cases}$$

$$\Rightarrow \quad H^0(M, \underline{Ext}_{\mathcal{O}}^n(\mathcal{O}_Z, \Omega^n)) = {}'E_\infty^{0,n} = H^n(M, \Omega^n)$$

otherwise $0 = H^q(M, \Omega^p)$

$$\Rightarrow \quad H^q(M, \Omega^p) = H^{p,q}(M) = 0 \quad \text{unless } p=q=n$$

$$\Rightarrow \quad H^q(M, \Omega^p) = H^{p,q}(M) = 0 \quad \text{if } p \neq q.$$

Step Two. Let $L \in H^{1,1}(M)$ be the cohomology class of a Kähler metric ω. The proof that $d_1' = d_2' = \cdots = 0$ will use the hard Lefschetz theorem