$$\bigoplus_{p=0}^{n} H^p(U \cup V) \otimes H^{n-p}(N) \longrightarrow \bigoplus_{p=0}^{n} (H^p(U) \otimes H^{n-p}(N)) \oplus H^p(V) \otimes H^{n-p}(N) \longrightarrow \bigoplus_{p=0}^{n} H^p(U \cap V) \otimes H^{n-p}(N)$$

$$\downarrow \psi \qquad\qquad\qquad\qquad \downarrow \psi \qquad\qquad\qquad\qquad \downarrow \psi$$

$$H^n((U \cup V) \times N) \longrightarrow H^n(U \times N) \oplus H^n(V \times N) \longrightarrow H^n((U \cap V) \times F)$$