$$\Rightarrow \quad ({}'E_{\Omega^{r*}})^{p,q}_{x} = \begin{cases} H^p(M, \Omega^r) & \text{if } q = 0 \\ 0 & \text{if } q > 0 \end{cases} \quad \text{for all } x \geq 2.$$

by $H({}'E_r) = {}'E_{r+1}$

$$\Rightarrow \quad \mathbb{H}^q(M, \Omega^{r*}) = ({}'E_{\Omega^{r*}})^{0,q}_2 \oplus \cdots \oplus ({}'E_{\Omega^{r*}})^{q,0}_2$$
$$= 0 \oplus \cdots \oplus H^q(M, \Omega^r).$$
$$= H^q(M, \Omega^r) \quad \text{--- } ①$$

On the other hand, by the partition of unity argument $H^q(M, \mathcal{A}^{*,*}) = 0$, see P42, and

$$({}''E_{\mathcal{A}^{r,*}})^{p,q}_2 = H^q_d(H^p(M, \mathcal{A}^{r,*})).$$

$$H^q(M, \mathcal{A}^{r,p-1}) \xrightarrow{\bar\partial} H^q(M, \mathcal{A}^{r,p}) \xrightarrow{\bar\partial} H^q(M, \mathcal{A}^{r,p+1})$$

if $q > 0$, since $H^q(M, \mathcal{A}^{r,*}) = 0$

$$({}''E_{\mathcal{A}^{r,*}})^{p,q}_2 = 0$$

if $q = 0$ $\quad H^0(M, \mathcal{A}^{r,p-1}) = A^{r,p-1}(M) \cdots$

$$\Rightarrow \quad ({}''E_{\mathcal{A}^{r,*}})^{p,q}_2 = H^{r,p}_{\bar\partial}(M)$$

$$\Rightarrow \quad ({}''E_{\mathcal{A}^{r,*}})^{p,q}_2 = \begin{cases} H^{r,p}_{\bar\partial}(M) & q = 0 \\ 0. & q > 0 \end{cases}$$

$$\Rightarrow \quad \mathbb{H}^q(M, \mathcal{A}^{r,*}) = ({}''E_{\mathcal{A}^{r,*}})^{0,q}_2 \oplus \cdots \oplus ({}''E_{\mathcal{A}^{r,*}})^{q,0}_2$$
$$= 0 \oplus \cdots \oplus H^{r,q}_{\bar\partial}(M)$$
$$= H^{r,q}_{\bar\partial}(M) \quad \text{---} \quad ②$$

By ① ② & ③

$$H^{r,q}_{\bar\partial}(M) \cong H^q(M, \Omega^r) \quad \lrcorner$$

3. The complex of holomorphic forms. We now show how