

$$\begin{aligned}
'E_2^{2,0} &= \frac{\{a \in 'F^2 C^2 : (d+\delta)(a) \in 'F^4 C^3\}}{(d+'F^1 C^1) + 'F^3 C^2} \\
&= \frac{\{a \in C^2(\underline{U}, \Omega^0(*)) : (d+\delta)(a) = 0\}}{\underset{\substack{\uparrow \\ +\delta}}{d(C^1(\underline{U}, \Omega^0(*)))} \cap \{a \in C^{2,0} : (d+\delta)(a) = 0\}}
\end{aligned}$$

$$\begin{array}{ccc}
'E_2^{0,1} & \longrightarrow & H^0(\underline{U}, \mathcal{H}'(\Omega(*))) \\
\downarrow & & \downarrow \\
a = a^{\cdot,1} + a^{\cdot,0} \text{ s.t. } & \longmapsto & a^{\cdot,1} \\
da^{\cdot,1} = 0, \quad d\bar{a}^{\cdot,0} + \delta a^{\cdot,1} = 0 & &
\end{array}$$

$\circledast \downarrow$

$$H^1(\underline{U}, \mathcal{O}^*)$$

As we can see,  $a^{\cdot,1}_\alpha \in \Omega^1(*)(U_\alpha)$ . i.e.  $a^{\cdot,1}_\alpha$  is a closed meromorphic form.

$\Rightarrow$  In the proof of Lemma on P 457,

$a^{\cdot,1}_\alpha = \sum \lambda_{\alpha,i} \frac{df_{\alpha,i}}{f_{\alpha,i}} + dg_\alpha$ , where  $g_\alpha$  is meromorphic in  $U_\alpha$  (if necessary, we may take a refinement of  $\underline{U}$ ).

$$\begin{array}{ccc}
'E_2^{0,1} & \xrightarrow{\circledast} & H^1(\underline{U}, \mathcal{O}^*) \\
\downarrow & & \\
a & \longmapsto & \left( \frac{\prod f_{\alpha,i}}{\prod f_{\beta,i}} \right) \\
& & (g_{\alpha\beta})
\end{array}$$

is well-defined as we saw on P 134 (first paragraph).