Similarly $$'E_4^{p,0} = \frac{'E_3^{p,0}}{\mathrm{Im}\, d_3} \quad \cdots \quad 'E_n^{p,0} = \frac{'E_{n-1}^{p,0}}{\mathrm{Im}\, d_{n-1}}.$$

$$'E_2^{p,0} \longrightarrow 'E_3^{p,0} = \frac{'E_2^{p,0}}{\mathrm{Im}\, d_2} \longrightarrow 'E_4^{p,0} = \frac{'E_3^{p,0}}{\mathrm{Im}\, d_3} \longrightarrow \cdots \; 'E_\infty^{p,0}$$

$$\longrightarrow \mathbb{H}^p. \quad \Rightarrow \quad 'E_2^{p,0} = H^p(M, \mathbb{C}) \longrightarrow \mathbb{H}^p.$$ ⅃

For $p = 1$ perhaps the most interesting case is when M is an algebraic curve of genus g. Our definition of differentials of the second kind agrees with that given in Section 2 of Chapter 2 on Riemann surfaces.

⅂ Any meromorphic 1-form on a Riemann surface is closed. A divisor on a Riemann surface is a finite point set. $\Rightarrow$ Our definition of differentials of the second kind agrees with that on P231. ⅃

We will prove the result:

Let $D = p_1 + \cdots + p_g$ be a nonspecial divisor of degree g. Then there is an isomorphism

$$\left\{ \begin{array}{l} \text{1-form } \varphi \text{ having} \\ \text{no residues and} \\ \text{polar divisor } 2D \end{array} \right\} \cong \frac{\{\text{1-form of the second kind}\}}{\{\text{exact forms}\}}$$

⅂ See P245 for the definition of a special divisor. ⅃