

Example. $M = \mathbb{C}$, $V = \{0\}$.

$\Rightarrow [V] \cong \mathbb{C} \times \mathbb{C}$ since \exists a non zero section $\sigma: \mathbb{C} \rightarrow \mathbb{C} \times \mathbb{C}$ defined by $z \mapsto (z, z)$, and $(\sigma=0) = V$.

\Rightarrow By p136 $[V] = \mathbb{C} \times \mathbb{C} = [\sigma]$

$\Omega_{\mathbb{C}}^1(0) \longrightarrow$ sheaf of meromorphic one form with a pole of order ≤ 1 at $V = \{0\}$.

$h(z)dz \longmapsto \frac{h(z)}{z} dz$.

$$\Rightarrow \left. \frac{h(z)}{z} dz \right|_{V=\{0\}} = \left. \frac{dz}{z} \wedge h(z) \right|_{V=\{0\}} = \left. \frac{dz}{z} \right|_{V=\{0\}} \cdot h(0).$$