The conclusion that the Chern class $C_1([D])$ represents, on the one hand, the Poincare dual of the fundamental homology cycle carried by a divisor D.
and on the other hand is given in de Rham cohomology by $\frac{i}{2\pi}$ times the curvature of any connection in the line

bundle $[D]$, is of fundamental importance for what follows. The method of proof of this proposition, i.e. applying Stoke's theorem to a differential form with singularities – is likewise ubiquitous, and will be systematized in Chapter 3.

The simplest consequence of this proposition is the fact that the divisor (f) of a meromorphic function is homologous to zero. This is intuitively clear:

$\ulcorner$ $(f) = D. \quad \Rightarrow \quad L = [D] = M \times \mathbb{C}$ since f is a meromorphic section of the trivial bundle. al $(f) = L$.
See P136. $\Rightarrow \quad C_1(L) = 0 = \eta_p \quad \Rightarrow \quad V \sim 0.$ $\lrcorner$

Drawing an arc γ from $\lambda_0 = 0$ to $\lambda_1 = \infty$ on the Riemann sphere P^1_λ,

the divisors $\{(\lambda_0 f + \lambda_1)\}_{[\lambda_0, \lambda_1] \in \gamma}$ trace out a chain with boundary $(f)_0 - (f)_\infty$.

$\ulcorner$ $\mathbb{P}^1_\lambda = [(\lambda_0, \lambda_1)] \qquad \lambda_0, \lambda_1 \in \mathbb{C}$.

$$\bar{\lambda}_0 = [(0, 1)] \qquad \bar{\lambda}_1 = [(1, 0)]$$

$$\gamma(t) = [(\cos t, \sin t)] \qquad 0 \le t \le \frac{2\pi}{4} = \frac{\pi}{2}$$

$$\gamma(t) = [(\sin 2\pi t, \cos 2\pi t)] \qquad 0 \le t \le \frac{1}{4}$$

$$\Rightarrow \{ ((\sin 2\pi t) f + \cos 2\pi t) \}_{0 \le t \le \frac{1}{4}}.$$