

$$\Rightarrow S \cong Q^* \\ \downarrow \quad \searrow \\ G(n-k, n) \leftrightarrow G(k, n)$$

Note in particular that the universal subbundle $S \rightarrow G(1, n) \cong \mathbb{P}^{n-1}$ is just the universal line bundle mentioned earlier. \Downarrow

$$\Gamma \quad \begin{array}{c} S \subset G(1, n) \times \mathbb{C}^n \\ \downarrow \\ G(1, n) \cong \mathbb{P}^{n-1} \end{array} \quad S = \{ (\Lambda, v) \mid v \in \Lambda \}.$$

Now let $E \rightarrow M$ be any holomorphic vector bundle of rank k on a complex manifold M . $V \subset H^0(M, \mathcal{O}(E))$ an n -dimensional vector space of global holomorphic sections, and suppose that the values $\{\sigma(x)\}_{\sigma \in V}$ of the sections σ in V span E_x for all $x \in M$. Then for each $x \in M$, the subspace $\Lambda_x \subset V$ of sections $\sigma \in V$ vanishing at x is an $(n-k)$ -dimensional subspace; accordingly, we obtain a map

$$i_V : M \longrightarrow G(n-k, V) = G(k, V^*)$$

with

$$E = i_V^* S^* \text{ and } V = i_V^* (H^0(G(k, n), \mathcal{O}(S^*)))$$

just as for line bundles.

$$\Gamma \quad V = \langle \sigma_1, \sigma_2, \dots, \sigma_n \rangle, \quad \langle \sigma_1(x), \dots, \sigma_n(x) \rangle = E_x.$$