

$$\psi_2(p) = \sum_{q \neq q' \in \pi^{-1}(p)} \varphi(q) \cdot \varphi(q'),$$

$$\psi_d(p) = \prod_{q \in \pi^{-1}(p)} \varphi(q),$$

i.e., we let  $\psi_i(p)$  be the  $i$ th symmetric polynomial in the values of  $\varphi$  at the  $d$  points of  $\pi^{-1}(p)$  in  $V$ .  $\psi_i$  is then a holomorphic function on  $\mathbb{P}^k - B - \pi(D)$ , and being bounded away from  $\pi(D)$  it extends by the Riemann extension theorem to a holomorphic function on  $\mathbb{P}^k - \pi(D)$ .

$\square$   $\pi(D)$  is an analytic variety.  $\Rightarrow$   
 $\mathbb{P}^k - \pi(D)$  is open. For each point  $p \in \mathbb{P}^k - \pi(D)$ ,  
 $\exists$  an open set biholomorphic to a polydisc.  
 (polydisc itself) on which  $\psi_i$  is bounded.

$$p \in \mathbb{P}^k - \pi(D) \longmapsto \underbrace{\mathbb{P}^{n-k-1}, p}_{\cap} \longmapsto (\alpha_1(p), \dots, \alpha_d(p))$$

$$G(n-k, n)$$

$$\longmapsto z^d + \alpha_1(p) z^{d-1} + \dots + \alpha_d(p) = f(z), \text{ which is holomorphic}$$

If  $f$  does not have distinct roots at some point  $q$ , then  $q$  is called a branch point.

$\Rightarrow B =$  zero locus of the discriminant of  $f$ ,  
 along the above line.

1992, 12, p. I think in this way.  $\square$