

$$\dim UL_\lambda = 2 \Rightarrow \text{Since } \dim Q = 2, \quad Q = UL_\lambda.$$

We have seen then that among all divisors D of degree 5 on B , the divisors for which $E_D = L_D(B)$ lies on a singular quadric are exactly those of the form $2D_0 + p$.

$$\begin{aligned} \Gamma \quad E_D \subset Q, \quad Q \text{ singular} &\Rightarrow D \sim 2D_0 + p \\ D \sim 2D_0 + p &\Rightarrow Q \text{ singular.} \end{aligned}$$

Now the set of such divisors forms a translate of the theta-divisor Θ on $f(B)$.

$$\Gamma \quad \begin{array}{ccc} \mu: B & \longrightarrow & f(B) = \text{Pic}^0(B) = A \\ \downarrow q & \longmapsto & \downarrow \\ q & \longmapsto & [q - p_0], \quad p_0 \text{ a Weierstrass point of } B \end{array}$$

See P284.

\Rightarrow Given such a divisor D , i.e., $D \sim 2K_B + p$, $p \in B$, then $\overline{\mu(D)} \equiv \sum_i \mu(p_i) = \sum_{i=1}^5 [p_i - p_0]$, where $D = \sum p_i$.

$$\Rightarrow \overline{\mu(D)} = [2K_B + p - 5p_0] = [2K_B - 4p_0] + [p - p_0]$$

$$\Rightarrow \overline{\mu(D)} \text{ represents a point } [p - p_0] + [2K_B - 4p_0]$$

$$\in \Theta + [2K_B - 4p_0]. \Rightarrow \text{Since we can choose any point } p \in B, \quad \{\overline{\mu(D)}\}_{D \sim 2D_0 + p} \equiv \Theta + [2K_B - 4p_0].$$