

$$L \cap L' = \sigma(p_L, h_L) \cap \sigma(p_L', h_L') \ni l \Rightarrow l \ni p_L' \text{ and } l \subset h_L.$$

□

The map

$$j: A \longrightarrow S'$$

sending each line $L \subset X$ to its focus p_L thus maps the curve B_L

$$j: B_L \longrightarrow h_L \cap S'$$

onto the hyperplane section $h_L \cap S'$ of S' ; $j|_{B_L}$ is clearly generically one to one.

$$\begin{aligned} \sqcap \quad K &= \{ L' \subset A \mid L' \cap L \neq \emptyset \} \ni L' \Rightarrow L' = \sigma(p_L', h_L') \\ &\Rightarrow \text{Since } \sigma(p_L', h_L') \cap \sigma(p_L, h_L) \neq \emptyset, \exists l_x \ni p_L', p_L \\ &\Rightarrow l_x = \overline{p_L' p_L} \text{ and } l_x \subset h_L \Rightarrow p_L' \in h_L \\ &\Rightarrow j(L') = p_L' \in h_L \cap S'. \end{aligned}$$

$$\begin{aligned} &\text{Given a point } p \in h_L \cap S', \text{ consider } \sigma(p) \text{ and } \sigma(p_L, h_L). \\ &\Rightarrow \sigma(p) \cap \sigma(p_L, h_L) \ni \overline{p, p_L} \\ &\Rightarrow \text{Since } \sigma(p_L, h_L) \subset X, \overline{p, p_L} \in X. \Rightarrow \\ &\sigma(p) \cap \sigma(p_L, h_L) \cap X \ni \overline{p, p_L} \Rightarrow \overline{p, p_L} \in \sigma(p, h_1) \\ &\text{or } \sigma(p, h_2), \text{ where } \sigma(p) \cap X = \sigma(p, h_1) \cup \sigma(p, h_2). \\ &\Rightarrow j \text{ is onto } h_L \cap S'. \text{ Since } B_L = \overline{K}, j(B_L) = h_L \cap S'. \end{aligned}$$

$$\begin{aligned} &\text{Suppose that } j|_{B_L} \text{ is not generically one to one.} \\ &\Rightarrow \exists \text{ dense set } U \subset h_L \cap S' - R, \text{ s.t for each } p \in U \\ &\sigma(p) \cap X = \sigma(p, h_1) \cup \sigma(p, h_2), \quad \sigma(p, h_1) \cap \sigma(p_L, h_L) \neq \emptyset. \end{aligned}$$