is a restriction and has a kernel, i.e., $\exists\ Q \in H^0(\mathbb{P}^3, \mathcal{O}(2H))$ s.t $\iota^* Q = 0 \in H^0(B, \mathcal{O}(2D))$, which implies that $Q \supset B$. $\Rightarrow$ In other expression, $Q \supset E_D$, since E_D is the embedded image of B.

⌟

Since E_D is nondegenerate of degree 5, moreover, we see that the quadric Q is uniquely determined by E_D.

F $g(E_D) = 2 \neq \frac{(5-1)(5-2)}{2}$ $\Rightarrow$ E_D is nondegenerate.
Suppose $E_D \subset Q_1$ and $E_D \subset Q_2$. $\Rightarrow$ Since E_D is nondegenerate, Q_i can not be singular of rank≤ 2, otherwise, since E_D is smooth, and E_D lies in a hyperplane in $\mathbb{P}^3$ ($\because$ $Q_i = H_1 \cup H_2$ or H in case Q_i is singular of rank≤ 2).
~~The only remaining possibility is E_D & the intersection of two smooth quadrics.~~ $\Rightarrow$ By the adjunction formula, $\deg(Q_1 \cap Q_2) = d$, and $+ d(d-3) = -2$.
$\Rightarrow$ $d^2 - 3d + 2 = 0$ $d = 1$ or 2. Here we assumed that Q_1 intersects with Q_2 transversely. See p550. $\ast$
If Q_1 meets with Q_2 nontransversely, ~~then~~
$E_D \subset Q_1 \cap Q_2$ is a curve. $Q \cap Q_2$ is homologous to $2H \cap 2H \sim 4H^2 \sim 4\ell$, while $E_D \sim 5H^2$. $\Rightarrow$ Contradiction, since $Q_1 \cap Q_2$ can not contain E_D.
Thus Q is uniquely determined by E_D.

⌟

Suppose first that Q is a singular quadric, i.e., Q is