By note P447~P448, in case V is smooth hypersurface. ($\Rightarrow V$ normal).
Then $\exists\ \varphi : V \to V$ biholomorphic s.t $\varphi(H_V) = H_V$. $\Leftrightarrow$ φ is projective isomorphism.
$\Rightarrow$ Everything is clearly proved.

Date

-morphism of $\mathbb{P}^n$. (Since $V \xrightarrow{f} V$ is projectively isomorphic, by Note P447~P448.) //

($\Leftarrow$) I think that we can not prove this.
I guess, they think the proof works in the same way exactly, so they made a mistake.

93. 1. 19

$\Downarrow$
This is a nonsense !!!
96. 4. 27

This result in fact holds for surfaces V of degree $d \neq 4$ in $\mathbb{P}^3$ as well: to apply the previous argument, we need to know only that $H^2(V, \mathbb{Z})$ contains no torsion; this follows from the fact that V is simply connected (Lefschetz theorem once more), and the statement of Poincaré duality for the torsion part $H_{*,\mathrm{tor}}$ of homology:

$$H_{i,\mathrm{tor}}(M, \mathbb{Z}) \cong H^{n-i-1}_{\mathrm{tor}}(M, \mathbb{Z}).$$

$\ulcorner$ $H^1(V, \mathcal{O}) = H^1(\mathbb{P}^n, \mathcal{O}) = 0$ $\quad$ $H^1(V, \mathbb{Z}) \cong H^1(\mathbb{P}^3, \mathbb{Z}) = 0$
$\Rightarrow$ V is simply connected.

// Observe the following: $V \subset \mathbb{P}^3$.

$$\begin{array}{ccccccccc} H^1(V, \mathbb{Z}) & \longrightarrow & H^1(V, \mathcal{O}) & \longrightarrow & \overset{= \mathrm{Pic}(V)}{H^1(V, \mathcal{O}^*)} & \longrightarrow & H^2(V, \mathbb{Z}) & \longrightarrow & H^2(V, \mathcal{O}^*) \\ & & \| & & \Downarrow & & \Downarrow & & \\ & & 0 & & L & \longmapsto & c_1(L) . & & \end{array}$$

$\Rightarrow$ Given line bundles L, & L' s.t $c_1(L) = c_1(L')$, then $L = L$.
//

Now the question is this:

PAGE