$\Lambda \cap V_{\{1,2,\dots,\hat{i},\dots,n\}} = \{0\} \Rightarrow \Lambda = \langle (v_1 \cdots v_n)\rangle \Rightarrow v_i \neq 0.$

$$\begin{array}{ccc} \varphi_{\{i\}} : U_{\{i\}} & \longrightarrow & \mathbb{C}^{n-1} \\ \Lambda & \longmapsto & \left(\frac{v_1}{v_i}, \frac{v_2}{v_i}, \dots, 1, \dots \frac{v_n}{v_i}\right) \end{array}$$

$\lrcorner$

Dually, we have $G(n-1,n) \cong \mathbb{P}^{n-1*}$, the projective space of hyperplanes in $\mathbb{P}^{n-1}$.

$\ulcorner$

$$G(n-1,n) \xrightarrow{\psi} G(1,n)$$

$$\begin{array}{ccc} U_{I=\{1,\dots,n-1\}} \ni \Lambda & \longmapsto & \Lambda^{\perp} \in U_{\{i\}} \quad \text{one to one, onto.} \\ \downarrow \varphi_I & & \downarrow \varphi_{\{i\}} \\ \mathbb{C}^{n-1} \ni \begin{pmatrix} 1, 0 \cdots 0, a_1 \\ 0, 1, \cdots 0, a_2 \\ 0, 0, 1 \cdots 0, a_3 \\ \vdots \\ 0, 0, 0 \cdots 1, a_{n-1} \end{pmatrix} & \longmapsto & \mathbb{C}^{n-1} \ni \left(\frac{x_1}{x_i}, \cdots \frac{x_n}{x_i}\right) \\ & & \parallel \\ & & \left(\frac{a_1}{a_i}, \cdots \frac{a_n}{a_i}\right) \end{array}$$

$\Lambda^{\perp} = \langle (x_1, \cdots x_n) \rangle \quad x_i \neq 0$

$x_1 + a_1 x_n = 0 \quad x_2 + a_2 x_n = 0 \quad \cdots \quad x_{n-1} + a_{n-1} x_n = 0$

If $x_n = 0$, $\Lambda^{\perp} = \{0\}$ contradiction. (Bad Expression)

$\Rightarrow x_n \neq 0$, $\quad x_1 = -a_1 x_n$, $x_i = -a_i x_n$, $x_{n-1} = -a_{n-1} x_n$.

$\Rightarrow a_i \neq 0$, $\quad \Rightarrow \left(\frac{x_1}{x_i}, \cdot \hat{1} \cdot \frac{x_n}{x_i}\right) = \left(\frac{a_1}{a_i}, \cdot \hat{1} \, \frac{a_n}{a_i}\right)$

$\Rightarrow \psi$ is holomorphic. $\lrcorner$

Finally, we note that $G(k,n)$ can be considered either as the set of linear k-planes Λ in $\mathbb{C}^n$, or equivalently as the set of $(k-1)$-planes $\bar{\Lambda}$ in $\mathbb{P}^{n-1}$.
Our viewpoint in this section will for the most part be the former, as it is easier to keep track of dim