$\mathbb{R}:$

$$
\begin{array}{ccc}
{}^{\ell}_{=}\mathbb{C}^{\mathsf{C}}_{r} & & {}_{=}\mathbb{C}^{\mathsf{C}}_{r} \\
& \searrow{}^{Q} & \\
& {}^{r}_{\ell}\mathbb{C}^{\mathfrak{D}}_{r} & \\
& \nearrow{}_{Q} & \\
{}^{\ell}\mathbb{R}^{\mathsf{U}}_{\ell}\,\neg\,{}^{\ell}_{=}\mathbb{C}^{\mathsf{C}}_{r} & & \mathbb{R}^{\mathsf{U}}\,\neg\,{}_{=}\mathbb{C}^{\mathsf{C}}_{r}
\end{array}
$$

(right diagram: ${}_{=}\mathbb{C}^{\mathsf{C}}_{r} \xrightarrow{Q} {}^{r}_{1}\mathbb{C}^{\mathfrak{D}}_{r} \xleftarrow{Q} \mathbb{R}^{\mathsf{U}}\,\neg\,{}_{=}\mathbb{C}^{\mathsf{C}}_{r}$)

$$x = {}^{\zeta}Q = \overset{t}{\zeta}\zeta = \overbrace{o\cdot\zeta}^{t}\,\underline{o\cdot\zeta}$$

$$x = \overset{t}{\vartheta}\,\overset{2}{\lambda}\,\vartheta \in \Omega^1_u$$

$$u = \overset{t}{\vartheta}\vartheta \in S_\ell$$

$$u\,\overset{*}{u} = \overset{t}{\vartheta}\,\underline{\vartheta\overset{*}{\vartheta}}\,\overline{\vartheta} = \overset{t}{\vartheta}\,\overline{\vartheta}$$

$$\overset{*}{u}\,u = \overset{*}{\vartheta}\,\underline{\overline{\vartheta}\overset{t}{\vartheta}}\,\vartheta = \overset{*}{\vartheta}\,\vartheta$$

$$x\,\overset{*}{u} = \overset{t}{\vartheta}\,\overset{2}{\lambda}\,\underline{\vartheta\overset{*}{\vartheta}}\,\overline{\vartheta} = \overset{t}{\vartheta}\,\overset{2}{\lambda}\,\overline{\vartheta} = \zeta\,\overline{\zeta}$$

$$\overset{*}{u}\,x = \overset{*}{\vartheta}\,\underline{\overline{\vartheta}\overset{t}{\vartheta}}\,\overset{2}{\lambda}\,\vartheta = \overset{*}{\vartheta}\,\overset{2}{\lambda}\,\vartheta = \overset{*}{\zeta}\,\zeta$$

$$\overset{*}{u}\,x\,\overset{*}{u} = \overset{*}{\vartheta}\,\underline{\overline{\vartheta}\overset{t}{\vartheta}}\,\overset{2}{\lambda}\,\overline{\vartheta} = \overset{*}{\vartheta}\,\overset{2}{\lambda}\,\overline{\vartheta} = \overset{*}{\zeta}\,\overline{\zeta}$$

$$\dim_{\mathbb{C}} Z_\ell = \ell + \frac{\ell(\ell-1)}{2} + \ell(r-\ell) = \ell r - \frac{\ell(\ell-1)}{2}$$

$$\dim_{\mathbb{C}} {}^{\ell}\mathbb{C}^{\mathfrak{D}}_{\ell} = \frac{\ell(\ell-1)}{2}$$