

\Rightarrow For each $x \in M$, \exists open set U_x in M s.t

$$\begin{array}{ccc} [D] \cap U_x & \xrightarrow{\cong} & U_x \times \mathbb{C} \\ \sigma \downarrow & \nearrow f_x & \\ U_x & & \end{array}$$

$$\Rightarrow g^{-1}(U_x) \xrightarrow{N-W} U_x \xrightarrow{f_x} \mathbb{C}$$

$$\Rightarrow \sigma_x \cap (N-W) = \sigma_x - W. \quad \sigma_x \text{ open in } N.$$

\Rightarrow By Hartogs' theorem, $f_x \circ g$ can be extended to σ_x .
On $U_\alpha \cap U_\beta$,

$$f_\alpha = g_{\alpha\beta} \cdot f_\beta \Rightarrow \text{On } g^{-1}(U_\alpha \cap U_\beta),$$

$$f_\alpha \circ g = g_{\alpha\beta} \circ g \cdot f_\beta \circ g.$$

$$\Rightarrow \begin{array}{ccc} g^*[D] & & g^*[D] \\ \downarrow & \text{is extended to} & \downarrow \\ N-W & & N \end{array}$$

$$\Rightarrow \exists \text{ a section } \tau \text{ s.t } (\tau=0) \supset g^{-1}(D).$$

$$\Rightarrow g^{-1}(D) = (\tau=0)$$

Note: $g(N-W)$ open dense in N

For each $q \in N - g(N-W)$, \exists open set L_q s.t
 $L_q \cong \Delta$, $L_q \subset N$. $\Rightarrow g^{-1}(L_q) = U - W$, U open
in M . Note that U is unique, since $U - W = U \cap (N - W)$