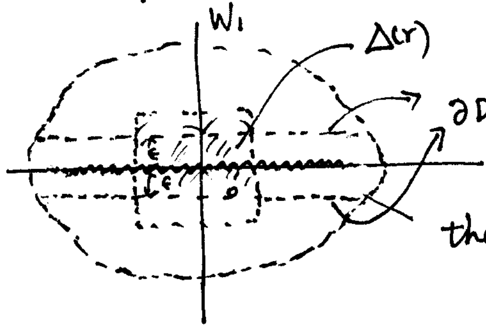
⑤ Since we have a holomorphic coordinate system $w = (w_1, w_2 \cdots w_n)$ with $w_1 = f_\alpha$ in the nbd W of any smooth point $z_0 \in V \cap U_\alpha$.

$$\{ w_1 = 0 = f_\alpha = 0 \} = V \cap W$$



$\Delta(r)$ pull back to w

$\partial D(\epsilon)$

$W' = \langle w_2, \cdots w_n \rangle$

the set corresponding to ---- to $V \cap W$

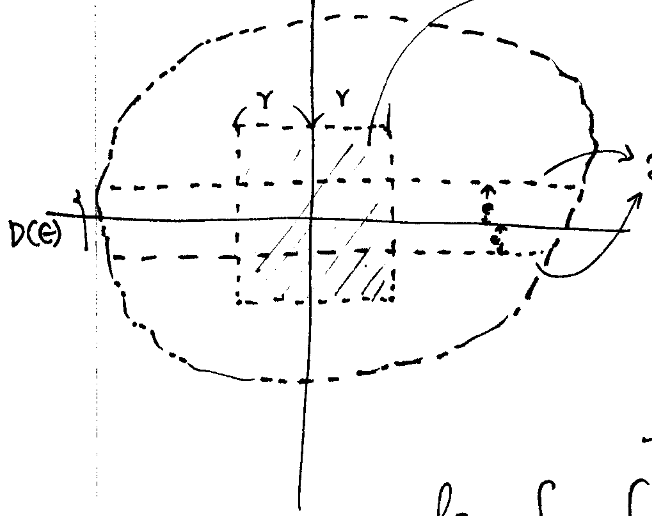
$\Rightarrow$ $D(\epsilon)$ corresponds to the tape with width 2ϵ.

$$\Rightarrow \lim_{\epsilon \to 0} \int_{\partial D(\epsilon) \cap \Delta} \partial \log f_\alpha \wedge \psi \overset{\text{pull back}}{=} \lim_{\epsilon \to 0} \int_{|w_1| = \epsilon} \frac{dw_1}{w_1} \psi(w) \cdot dw' \wedge d\bar{w}'.$$

$$= \lim_{\epsilon \to 0} \int_{|w_1| = \epsilon} \int \frac{dw_1}{w_1} \psi(w)\, dw' \wedge d\bar{w}'$$

$\Delta'(r)$

$\Delta(r) = \Delta'(r) \times \{ w_1 \mid |w_1| < r \}$



$\partial D(\epsilon)$

$W' = \langle w_2, \cdots w_n \rangle$

$$= \lim_{\epsilon \to 0} \int_{\Delta'(r)} \int_{|w_1| = \epsilon} \frac{dw_1}{w_1} \psi(w)\, dw' \wedge d\bar{w}'$$

pull back of ψ through f.

$$= \int_{\Delta'(r)} \psi(0, w')\, dw' \wedge d\bar{w}' = \int_{V \cap \Delta(r)} \psi$$