9. Generalize a little further:

$$\#_{\omega'} : C^\infty(\bar{W} \times \bar{W}) \to C^\infty(\bar{W})$$

Multi-symplectic algebras

$$W_i,\ \omega_i' \in \Lambda^2 W_i' \qquad i = 1, \dots, n$$

$$\Psi^0_{\omega_1', \omega_2', \dots, \omega_n'}(\bar{W}_1 \times \cdots \times \bar{W}_n)$$

$$= C^\infty(\bar{W}_1 \times \cdots \times \bar{W}_n)$$

with $\#_{\omega_i'}$ on i^{th} "variable"

Special case: $W_1 = \mathbb{R}^k \times \mathbb{R}^2$ $\quad \omega' = \omega$ on $\mathbb{R}^2$

$W_2 = \mathbb{R}^{2n}$ with symplectic form

$$\Psi^0_{k-i,i} = C^\infty(\bar{W}_1 \times \bar{W}_2)$$

$$\left(\neq C^\infty(\overline{W_1 \times W_2}) \right)$$

$$E^k = \left\{ P \in C^\infty(\bar{W}_1 \times \bar{W}_2);\ P = 1 + a,\ a \in C^\infty(\bar{W}_1; C^\infty(\bar{W}_2)) \right.$$

$$\left. a \equiv 0 \text{ at } \{N\} \times \bar{W}_2,\ P^{-1} \text{ exists} \right\}$$