⌈ Suppose they proved the theorem when W is smooth.
Consider Z, W general analytic subvarieties

$\Rightarrow$ $Z \cdot W = (Z \times W) \cdot \Delta$

$\Rightarrow$ Since Δ is smooth, we can apply the theorem proven for a smooth case to $(Z \times W) \cdot \Delta = \sum_{(p,p) \in Z \times W \cap \Delta} m_{p \times p}(Z \times W, \Delta)$

$$\geq \sum_{(p,p)} \mathrm{mult}_{p \times p}(Z \times W)\ \mathrm{mult}_{p \times p}(\Delta) = \sum_{(p,p)} \mathrm{mult}_{p \times p}(Z \times W)$$

$$= \sum_p \mathrm{mult}_p(Z)\ \mathrm{mult}_p(W) \leq \sum_p m_p(Z, W).$$

Thus we can conclude only the positivity of intersection numbers of analytic varieties, not the whole theorem. ⌋
see p196~p197 for a correct interpretation.

Next, we may for simplicity assume that Z and W meet in a single point p_0. We may choose a holomorphic coordinate system $(z, w) = (z_1, \dots z_p; w_1, \dots w_{n-p})$ around p_0 such that W is given by $z = 0$ and the projection $(z, w) \longrightarrow z$ is a finitely sheeted branched covering mapping on Z.

⌈ Comment on the argument above.

$$(Z \times W) \cdot \Delta = \sum_{(p,p) \in Z \times W \cap \Delta} m_{(p,p)}(Z \times W, \Delta) = \sum_p m_p(Z, W)$$

assume that this is proved

$$= Z \cdot W \quad \Rightarrow \quad Z \cdot W = \sum_p m_p(Z, W)$$