make a $(N-1)$-dimensional "cone". $\Rightarrow$ We can choose a coordinate system so that the coordinate projections

$$f(M_\lambda) \longrightarrow \Delta^n$$

are all proper mappings. "We may shrink Δ^N". ⌟

To complete the argument we make an observation: in $\mathbb{C} \times \mathbb{C}^p \times \mathbb{C}^q$ with coordinates $(u, v_1, \cdots v_p, w_1, \cdots w_q) = (u, v, w)$ we suppose given a closed subset S of the polycylinder $\Delta \times \Delta^p \times \Delta^q$ defined by $|u| < \epsilon$, $|v_i| < \epsilon$, $|w_\alpha| < \epsilon$. Suppose that we let $S_0 = S \cap \{u = 0\}$, and assume that the projection $S_0 \longrightarrow \Delta^p$ induced by $(0, v, w) \longrightarrow v$ is proper. Then, taking a smaller ϵ if necessary, the projection $S \longrightarrow \Delta \times \Delta^p$ induced by $(u, v, w) \longrightarrow (u, v)$ will again be proper.

⌜ Once we proved the observation, then the argument is completed. For,

$$\begin{array}{l} \Delta^N = \Delta \times \Delta^{N-1} = \Delta \times \Delta^n \times \Delta^{N-1-n} \\ \cup \\ f(M) = S \text{ (let)}. \end{array}$$

Let $n = p$, $N-1-n = q$. By the observation, the projection $f(M) = S \longrightarrow \Delta \times \Delta^n = \Delta^{n+1}$ is proper, i.e., $g = \pi \circ f$ is proper. Thus it remains to show the observation.