Let's look more closely at $\{h_1(z) = g_1(z)\}$.
$\Rightarrow$ $\{h_1(z) = g_1(z)\}$ is a hypersurface of $\mathbb{C}^{n-1}$ locally, unless $h_1 \equiv g_1$, which is impossible. For if it happens, $\pi\{f_1 = f_2 = 0\}$ contains an open set in $\mathbb{C}^{n-1}$. It makes us conclude that V is an analytic hypersurface, by P13 if we can not find an open set satisfying $h_i \not\equiv g_i$. Thus if we count the number of pairs h_i, g_j which intersect each other, then we know the number of sheets of our branched covering.

<u>Wrong !</u>

When we reviewed assertion 2 on P13, we did not check that $W \longrightarrow \mathbb{C}^{n-2}$ is a finite-sheeted branched covering. We had to check the following two things. ① $W \xrightarrow{\pi} \pi(W)$ is a finite branched covering.

② $M \xrightarrow{f} N$ finite branched covering

$N \xrightarrow{g} L$ 〃

Then $g \circ f$ is a finite branched covering.

(Easy to see by Sard's theorem, since $g(K) \cup A$ is measure zero. f on $K (\subset N)$ has branches.)

① $W \xrightarrow{\pi} \pi(W)$

For each $z \in \pi(W)$, consider $\pi^{-1}(z) \cap W$.
$\Rightarrow$ $\pi^{-1}(z) \cap W = \{z_n \in \mathbb{C} \mid 0 = f(z, z_n) = g(z, z_n)\}$ is a finite-points set, since f & g are polynomials in z_n. Note that $f(z, z_n) - g(z, z_n)$ is a poly-