Methods of Kirby (Stable homeomorphisms, preprint) show that the following conjectures $C(k, m)$, $m \geq 5$, (Kirby’s modified by Siebenmann) imply, for example, existence of a PL manifold structure on any metrizable open topological $m$-manifold. $C(k, m)$: Let $h : D^k \times T^n \to W^n$, $k + n = m \geq 5$, be a homeomorphism onto a PL manifold that gives a PL isomorphism of boundaries ($D^k = k$-disk; $T^n = n$-torus, the $n$-fold product of circles). Then for some finite covering $h : D^k \times T^n \to W$ of $h$, $h|\partial D^k \times T^n$ extends to a PL homeomorphism. The stronger conjecture $\overline{C}(k, m)$ with $h$ merely a homotopy equivalence can be decided by surgery. Wall has proved $\overline{C}(k, m)$ for $k \neq 3$, and disproved $\overline{C}(3, m)$. First Conclusions. (A) From $\overline{C}(0, m)$: Every homeomorphism of $R^m$, $m \geq 5$, is stable; hence the annulus conjecture holds in $R^m$. (B) On a PL manifold, dim $\geq 5$, without boundary, decomposable with no 3-handles, the PL structure is unique up to small topological isotopies. (C) On microbundles: If $i < m \geq 5$, $\pi_i(\text{TOP}_m, \text{PL}_m)$ is 0 for $i \neq 3$ and $\mathbb{Z}_2$ or 0 for $i = 3$. Hence if $M$ is any manifold, for $d$ large, $M \times R^d$ admits a PL structure provided $H^4(M; \mathbb{Z}_2) = 0$. (D) Without Wall’s result one can triangulate any closed 4-connected manifold. J. L. Shaneson and W. C. Hsiang have a later proof of $\overline{C}(0, m)$. (Received December 10, 1968.)