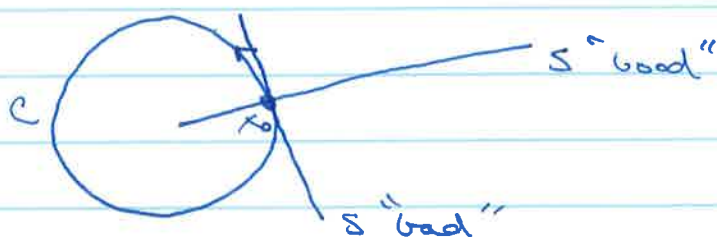
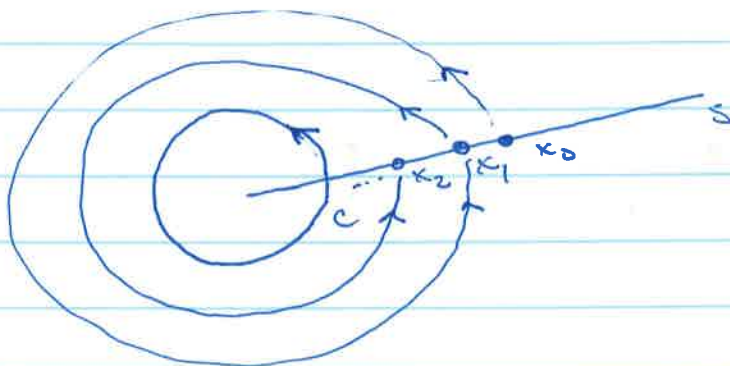


STABILITY of PERIODIC ORBITS & POINCARÉ MAPS

- Given a periodic orbit & define a SURFACE of SECTION (in 2D a line) that is linear independent to "local orbit".



- If x_0 is on C & S then $\varphi(t+T, x_0) = x_0$ is on C & S
 makes sense: C is periodic so must return to same spot
- Pick an x_0 not on C but on S ...
 Follow traj until it crosses S again @ x_1
 " " " " " " @ x_2
 !



- Define the POINCARÉ MAP: $x_{n+1} = P(x_n)$
 $x_1 = P(x_0) \rightarrow x_2 = P(x_1) \rightarrow x_3 = P(x_2) \rightarrow$
 $\rightarrow P(P(x_0)) \rightarrow P(P(x_1))$
 $\rightarrow P(P(P(x_0)))$