Critical Simulation.

The Current Value is computed on **Risk Capital** $r = 1 + \cos\vartheta$ with Liability $r = \frac{3}{2}$on I. Collaboration as an Ellipse $r = 1 : (1 - e\cos\vartheta)$ where e is an eccentricity and it is known $r = \cos 2\vartheta$, in Simulation $r \in \mathbb{R}^+$, a **Work Opportunity**.

Definition: **Singular Point** x_0 when $f'(x_0) \neq$existence and $f(x)$ differential on I, $x_0 \in I$.

Paths on Function Plots.
$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} g(t) \\ h(t) \end{bmatrix}$ known as $\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} t^3 \\ t^2 \end{bmatrix}$, and $\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} \cos t \\ \sin t \end{bmatrix}$ and $\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} \cos t^3 \\ \sin t^3 \end{bmatrix}$.

Smoothness: $\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} g(t) \\ h(t) \end{bmatrix} \to \exists f, \exists g$, and g' and f' are never simoultaneously zero (countinuous derivatives)

Criticality: (**Smooth**) h'or $g' = 0$ **but never together**.

Angle as Parameter, $\exists r = f(\vartheta) \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} f(\vartheta)\cos\vartheta \\ f(\vartheta)\sin\vartheta \end{bmatrix}$ adressed in Angular Occurrence.

Paths along Graphes-Complementarity $\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} g(t) \\ h(t) \end{bmatrix}$ $y = [F(x)]$ and $\frac{\partial y}{\partial t} = F'(x)\frac{\partial x}{\partial t}$ (Coordinate-Parameters Functions) and $F'(x) = \begin{bmatrix} h'(t) \\ g'(t) \end{bmatrix}$ where $g'(t) \neq 0$. $F(x)$ runs x in $g(t)\uparrow$ or $g(t)\downarrow$ along the Function graph $h(t) = F(g(t))$.

Simulation in Length on Polar Coordinates.(**Alternatives**) $r = f(\vartheta)$, with $\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} f(\vartheta)\cos\vartheta \\ f(\vartheta)\sin\vartheta \end{bmatrix}$,

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{matrix} \cos\vartheta & -\sin\beta \\ \sin\vartheta & \cos\vartheta \end{matrix} \begin{bmatrix} x \\ y \end{bmatrix}$$

$$\lim_{x\to a}\frac{g(t)}{h(t)} = \lim_{x\to a}\frac{g'(t)}{h'(t)} = L \text{ the L'Hôpital Rule}$$

Support and Open and Closed Forms.

$$\lim_{x \to a} \frac{g(t)}{h(t)} = \lim_{x \to a} \frac{g'(t)}{h'(t)} = L = \lim_{x \to a} g(t) : h(t) = \lim_{x \to a} g'(t) : h'(t) = L$$

The Forms are when g' and $g, h,$ and $h',$ are making $.L$ stable.
If g and g' are limited then it sets L small and is called **Closed** Form
and h and $h'$are low then L is set small and it is called **Open** Form.