Parametric Mean Value Theorem with Closed and Open Forms.
Parametrization of the Cartesian Space and Command.

The generalization of the mean value principle we be presented.
We assume we have the path: $(x,y) \to (g(t),h(t))$ from (x_0,y_0) and (x_1,y_1)

$$(x,y) = ([x^i(t)],[u^i(t)]) \to (g(t),h(t))$$

Phases and Commands in Sustainability as as $\varphi([u^i(t)]^{i=1,..,r}) = 0$ **with Roots.**
Commands in Optimal Time at $[u^i] \in \mathbb{R}^r$ **are close to Google Drive.**
$[x^i(t)]$ are Phase coordinates. $[u^i(t)]$ command coordinates. See $[x^i(t)] \in X$ the Phase Space, and the admissible Command $[u^i(t)]$ may lead to $[u^i] \in \mathbb{R}^r$, with the closed domain of Command Space $U \subset \mathbb{R}^r$. The **energetic parameters** $[u^i(t)]^{i=1,..,r}_{t\in[t_0,t_1]}$ are initial with $[x^i(t)]^{i=1,..,n}_{t=t_0}$ with $i \in [1;n]$. $\exists\varphi : [x^i(t)]^{i=1,..,n} \to \rho \in \mathbb{R}$ and the Command Parameters $[u^i(t)]^{i=1,..,r}_{t\in[t_0,t_1]}$ are linked as $\varphi([u^i(t)]^{i=1,..,r}) = 0$. (binded).
Commands in Optimal Time at $[u^i] \in \mathbb{R}^r$ **are close to Destination with the Romanian Group.**
In U, we may set: $u_1(t) = \cos\phi$ and $u_2(t) = \sin\phi$, for arbitrary ϕ, then $(u_1)^2 + (u_2)^2 = 1$ is U complementary to G and U called circonference. (and G a closed domain as a Phase Domain). The movement of $[x^i(t)]$ is inside G, and on ∂G. The movement of $G \to \partial G$, is done by diffraction (see below).
We say $[x^i(t)]^{i=1,..,n}$ is governing where the position conditions the movement as it is a **Closed Form**. These positions are $[u^i(t)]^{i=1,..,r} \in U$, or $\mathbb{R}^r$. We know that if $[u^i(t)]^{i=j} \in \mathbb{R}^r$, it may be $|u^j(t)| \leq 1$, $\forall j = 1,2,3,..,r$

Discontinuities of the First Species and Admissible Commands.
We know $[u^i(t)]^{i=1,..,r}$ piecewise continuous and also wonder about their differentiability, -we have: $u(\tau - 0) = \lim_{t<\tau} u(t)$ a discontinuity of the first species as written, and $u(\tau + 0) = \lim_{t>\tau} u(t)$, listed as piecewise continuous commands, with no inertia (resistance to change), knowing $[u^i(t)]^{i=1,..,r}$ jumps from a point to another point in U. $[u(t)]_{t\in[t_0,t_1]}$ is called an admissible Command, that is piecewise continuous and differentiable.
Through the Domain of the command $\left|[u^i]^{i=1}\right| \leq 1$ is a Relaxation Phase or Lipschitz Condition or $(u^1)^2 + (u^2)^2 \leq 1$ a Working Phase.

We have $[x^i(t)]$ **are Phase coordinates with** $[x^i(t^*)] = f_i$ **where** $f_1 + f_2, ..+ f_n$ **is a Lump Sum.**
We have the secant line through these points $[u^i] \in \mathbb{R}^r$, where the r are taken as two, must be parallel to the tangent line at some in-between point. If the line is not vertical, then the slope for two is: $\frac{y_1-y_0}{x_1-x_0}$. h and g are continuous on $[a,b]$, then

$$\frac{h(b)-h(a)}{g(b)-g(a)} = \frac{[u^i(t^*)]\ |_T}{[x^i(t^*)]\ |_T} = \frac{h'(T)}{g'(T)} \to L \text{ and } ([x^{i*}(t)],[u^{i*}(t)]) \text{ where } T \in (a,b)$$

.**Open Forms** are $[x^{i*}(t^*)]\ |_T \to [u^{i*}(t^*)]\ |_T$

Parametrization is free of theory.

The Hôpital Rule is: $h(t) \to 0$, $g(t) \to 0$ as $t \to a$, and $\frac{h'(t)}{g'(t)} = \frac{[u^i(t^*)]|_T}{[x^i(t^*)]|_T} \to L \leq \infty$, as $t \to a$, then $\frac{h(t)}{g(t)} \to L \leq \infty$ as $t \to a$