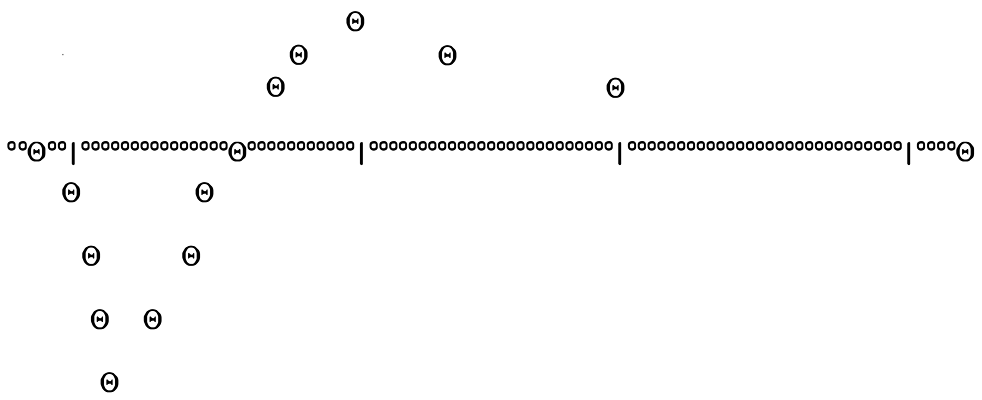
C: \ J-Luta \ AtracFig-YYY-8.121

Attract Function

The Attraction Forces. Ψ-Atract

The basic structure of a Ψ-force is represented by Fig. I



A /a B C D e E

< Repulsion >< Attraction >

Fig. I

(A) Elastic-Plastic System, EPS.

An EPS is a composite or mixture of two components a plastic, P and and a elastic, E, and is a solid with a parallel trope form in a certain range of temperature and pressure.

It is given the force needed to reduce or increase the distance between two opposing faces.

The alteration of the form of EPS due to the application of a force will change the form of P and E and if the force is released then P retains some deformation but not the component E being elastic.

The system may endure many experiments, retaining the memory of them by means of changing its forma and proprieties but may still be considered the same system.

The repeated application of forces may either give rise to a scission or fusion and then the system is considered destroyed.

(B) Description of an Elastic-Plastic System, EPS.

The standard function, **ΨA,** is an elastic-plastic function describing a tipical elastic-Plastic system.

(1) The **ΨA** domain is [A,E] and in the interval [A,C] the attraction is negative «repulsive» and in the interval [C,E] it is «attractive».

(2) In the interval [A,C] the function ΨA attains the maximum repulsive force at point B and in the interval [C,E], ΨA, has the maximum attractive force at D.

(3) At point C ΨA is null , no attraction and no repulsion .

(4) Point (a) is the starting point of the crunching or fusion process of the system and a new and non reversible process is started.

Point (e) is the starting point of the desegregation or scission of the system and a new and non reversible process is started..

(5) In the interval [B,D] the system may oscillate with different amplitudes and if a plastic deformation may occur the system may still be considered the same but with altered proprieties,

External forces may increase the amplitude and the system may escape to the regions [D,E] or [A,B].

(6) In general the absolute values of the function at B and D are different and at B it is higher then at D. The interpretation of this dissimilarity is that fusion implies much more energy then scission.

(7) The function Ψ can also describe living beings moods, for instance , if the amplitude of the oscillations is small it may describe the usual situation of attraction in marriage, friendship.

(8) The concept of *distance* includes variables based on human proprieties as for instance, friendship, social classes, aggressiveness, courage and many others.

The main difficulty is to develop measurement techniques.

(C) **Conjugation of Inertia and Ψforces**

The formal model of the System, AgΨ, implies the evaluation of the mass, M and the inertial moment , IM.

The trajectory, velocity (linear and angular), and acceleration must be evaluated, the inertial force , F=M.Ac and moment, IF=IM.IAc, where Ac is the acceleration vector and IAc the acceleration rotation.

It is a hard problem the calculation of sets of systems with many intervene agents simultaneously and that move in a 3 dimensional space.

Some typical cases will be presented based on a simplified ambient , namely, the space dimension is 1 exceptionally a 2, the AgΨ does not rotate,

Case-1

The agent , AgΨ, is positioned in the interval [e , E] , consequently outside the influence of the attraction of AgΨ is null and the force FΨ(A)=0, .

Assuming that agent AgΨ, is moving with a constant speed and directly to C, then the attraction force, FΨ, if acting alone, will accelerate the movement till it reaches, C, and the maximum speed and energy are attained .

From point C to A , the attraction is negative and the speed of , AgΨ, will be reduced.

The shape of the function, fΨ, enables the evaluation of the amount of energy , E(ce), that will be produced by the force, FΨ, in the intervals [A, C], and [C, E].

If AgΨ has mass and Ac is the acceleration, than inertial force intervenes , F=M.Ac , and the trajectory, velocity and acceleration must be calculated and the conjugated forces is obtained by adding the vectors of F and FΨ.

Case-2

Assuming that Eac > Ece and EΨ, EΨ0 are the inertial energies of AgΨ, AgΨ0, and the referential are the coordinates of AgΨ0 , then EΨ0=0 .

If EΨ > Eac-Ece then the two agents will fuse and subsequently either disperse, or create a new living entity or even may even annihilate .

To avoid the loosing life,Ψ, normally Eac >> Ece .

Case-3

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Assuming that Ebc >>Ece and EΨ < (Ebc-Ece) then the agent AgΨ will never fuse with AgΨ0.

If EΨ at E, EΨe, is such that the energy at D, EΨd, is null then the system will start to oscillate in the interval [B,D].

This oscillation can be perturbed if energy of the system is altered by means of an external interference.

If the system energy is reduced the amplitude diminish and the system can be stopped at C.

If the system energy is increased the amplitude is increased and the system may be destroyed.

(D) Aggregation Forces of living beings.

As usual, the symbol, Ψ, will be adjoined to the name of the force if it symbolises a living being force, e.g..:

- **InertiaΨ**, the resistance to alterations to the state, the objectives and positions of a living being.
- **ElasticityΨ**, the property of returning to the initial state and form after being deformed by external forces. The living beings have a good memory and remember the past states.
- **PlasticityΨ**, the property of keeping the deformation imposed by the external force.
- **Elastic-Plastic-Ψ** , living beings are typically negotiators trying to recover their primitive form but ceding some not very essential characters.

E: Examples of Attraction Forces. ΨF

(1) Resistance to alter habits, vices, states, beliefs, love and hate and they emulate inertia of physics and can be understood as an anima-inertia.

(2) Dreams and images of "el dorados" , religion, beliefs, new endowers , business, etc. may be strong enough to fight for, endure sacrifices or emigrate.

(3) Preservation of life and family, friends, country, freedom are reactions to real or virtual aggressions.

(4) Seeking pleasure, love, power, riches are also a general and common Ψ-force.

Attractive forces in physics are essentially functions of distance but Ψ-forces are not much dependent .

The usual solution to measure Ψ-forces is to rely on the expert opinion of a specialised professionals and the values are given in grades like [0,1,2,3,4].

F: Interpretation of ΨForces

The X coordinate may be considered a « virtual distance» to be adjusted in each case by an expert.

The interval (Xa,Xe) is partioned in 5 parts .

The Ψforce attains the maximum value at Xd and the attraction starts reducing if distance is diminishing and is null at Xc and if the process continues Ψ-force is negative and repulsive and the system may oscillate

A simple problem of force conjugation the triple forces (ΨU, ΨV, F).

The Ψsystem is considered an aggregate if the coordinate X is in the interval (A,E) but if X <A the system is crunched and X>E the system is disengaged.

G: An example of a ΨF

The basic structure of a ΨF is derived from a deformation of a cosine .
The range of **ΨF** is (π/2 , 5/2π) and the partitioned as follows :

Arcs	***Angles***	***Cosine***	***Observations***
(A,B)	(1/2 π , π)	(0 , -1)	repulsion increases to the maximum.
(B,C)	(π , 3/2 π)	(-1 , 0)	repulsion decreases to zero.
(C,D)	(3/2 π , 2 π)	(0 , 1)	attraction increases to the maximum.
(D,E)	(2 π , 5/2 π)	(0 , 1)	attraction decreases to zero.

The deformations are applied both in XX and YY coordinates , for example :
1: Arc (A,B),
Let W be any arc of (AB) , the coordinate X will be given by the linear expression X(W)=Mab(W-A) + Nab and consequently X(B)= Mab(B-A) + Nab. The parameter Mab will be used to alter the relation of arcs to coordinate and Nab interferers with the origin of coordinate X .
Regarding the coordinate Y, the expression will be Y(W)=Sqr(W-A)+Y(A) and consequently Y(B)=Sqr(B-A)+X(A).
2: Arc (B,C), For W in (B,C), the formulas are similar X(W)= Mbc(W-B) + Nbc and X(C)= Mbc(C-B) + Nbc and for coordinate Y, the formula is :
Y(W)=Sqr(WB)+Y(B)
3,4: Arcs (C,D) and (D,E) the formulas have the same structures and eventually different parameters.
The final result is the function **ΨF**