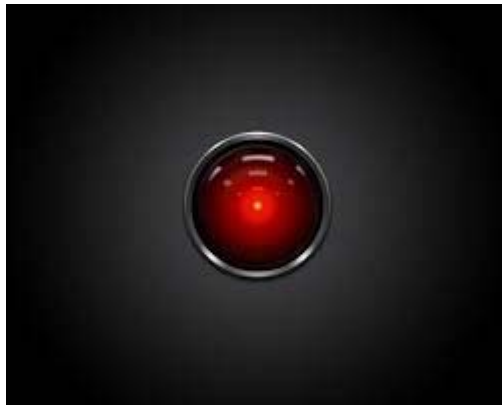


Chaos and political ad

A brand new candidate, Mr. A enters in politics. The letter A has not been chosen because it is the first letter in the alphabet, but only to recall the name of HAL, the computer governing the spaceship Discovery in '2001: A Space Odyssey'.



Mr. A has a potential voter market. We can quantify it with 1, so that the results will turn out to be percentages.

We want to analyze the time evolution of his consensus.

We want to understand the joint role of three different elements:

- efficiency of political ad;
- relevance of already gathered consensus;
- cap-effect in the case of relevant success.

Time:horizon $T := 10$

Clock: $t := 1..T$

The initial consensus is: $x_0 := 25\%$

The evolution law of consensus has the following structure:

$c. \text{ today} = c. \text{ yesterday} + \text{campaign efficiency} \times \text{consensus yesterday} \times (1 - \text{constant} \times \text{consensus yesterday})$

The efficiency of the campaign is measured by the parameter: $a := 1$

The evolution function is: $f(x) := x + a \cdot x \cdot (1 - x)$

The motion law is:

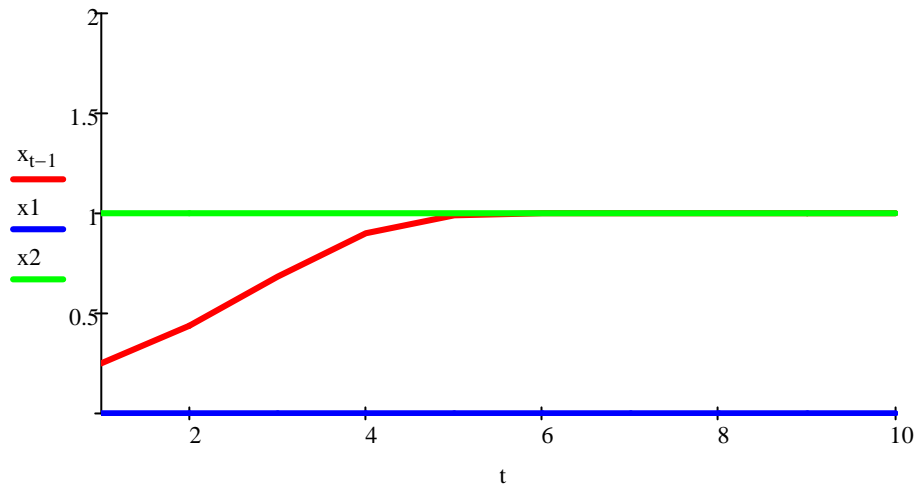
$$x_t := f(x_{t-1})$$

The dynamic system allows for two equilibria: $x_1 := 0$ $x_2 := 1$

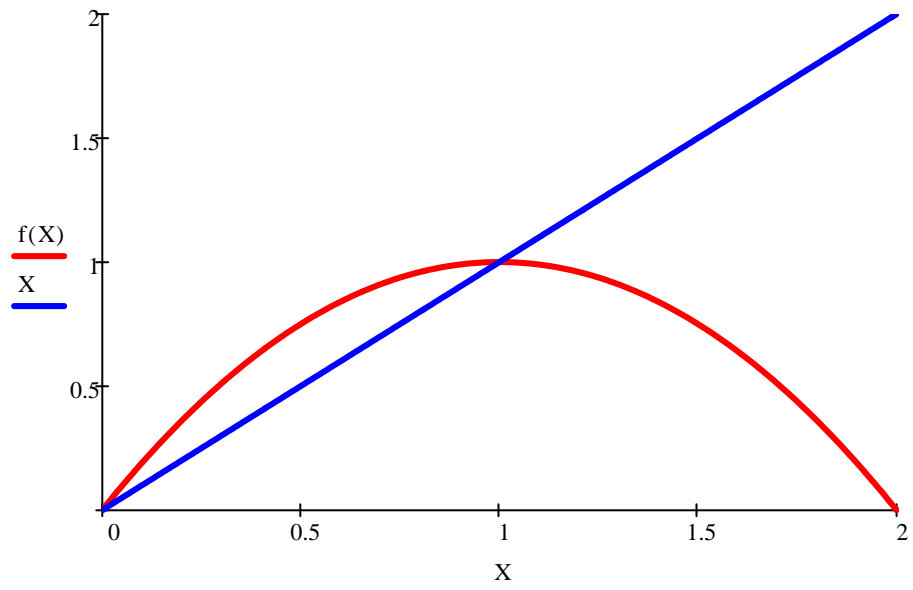
The slope at x of the phase curve is $sl(x) := 1 + a - 2 \cdot a \cdot x$

e.g. $sl(x_2) = 0$

The starting point is: $x_0 = 0.25$



Phase Diagram



Suggestion: try to look at the effects of increasing ad efficiency. It is sufficient to try with - say - $a = 2$ or 3 to get some insights.