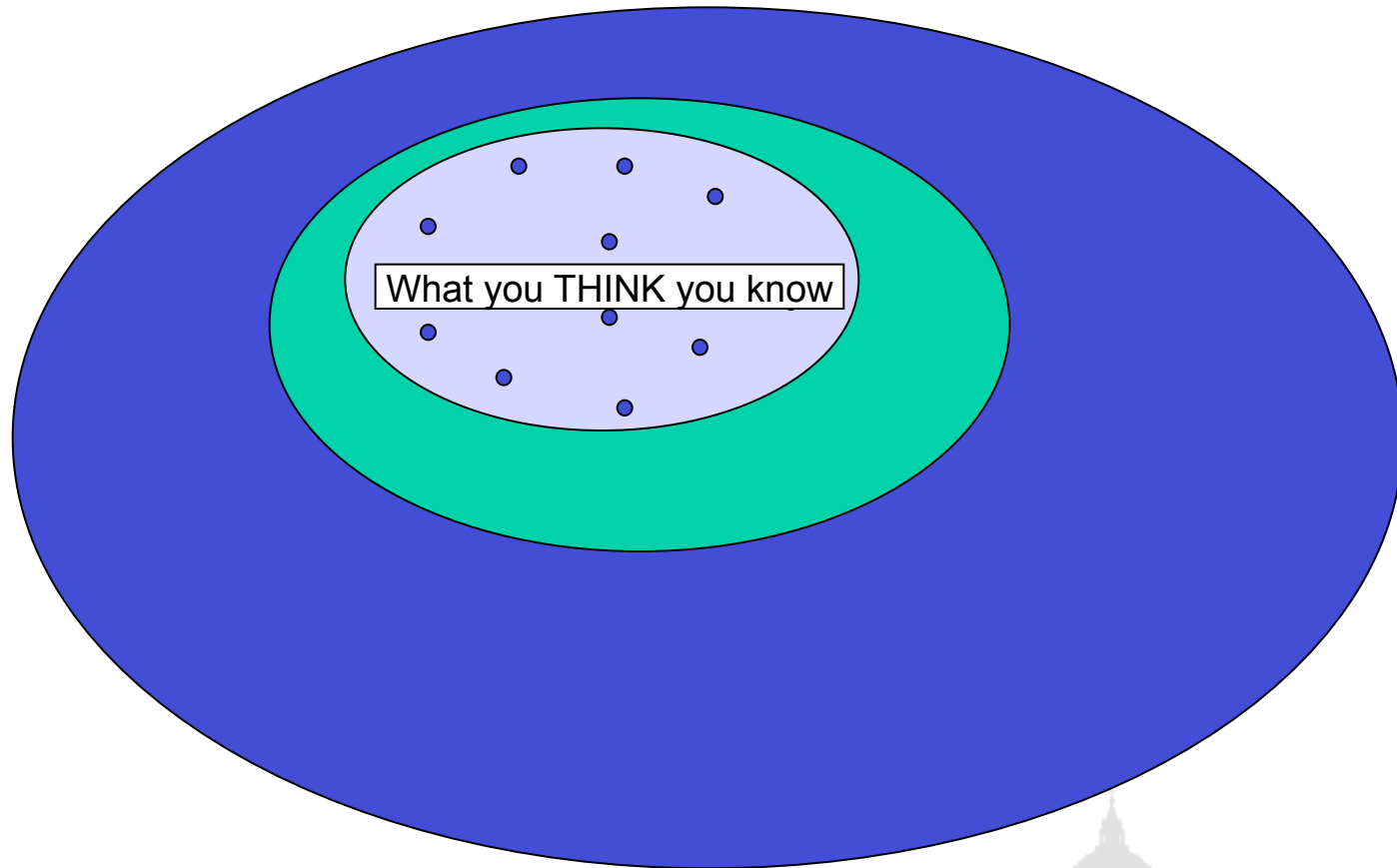


Emergence : The Illusion of Knowledge

George R. McConnell
Finmeccanica – SELEX Elsag



What we don't know



Knowing Kills Thinking

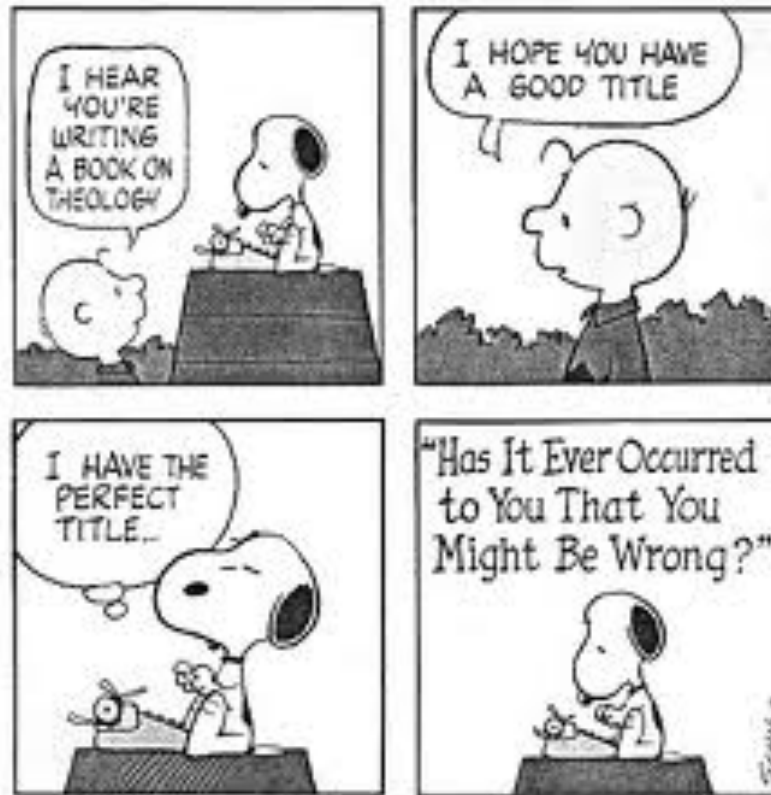
An easy question

- ⇒ a boy goes into a shop and buys a bat and a ball
- ⇒ the bat and ball together costs one euro and ten cents
- ⇒ the bat costs one euro more than the ball
- ⇒ how much was the ball?

How our brain deceives us

- ✦ availability heuristic
- ✦ planning fallacy
- ✦ illusion of control
- ✦ knowledge bias
- ✦ well travelled road effect

Confirmation bias



Focusing effect

☞ getting sucked in to one problem at the expense of all others

Can you find the
the mistake?

1 2 3 4 5 6 7 8 9

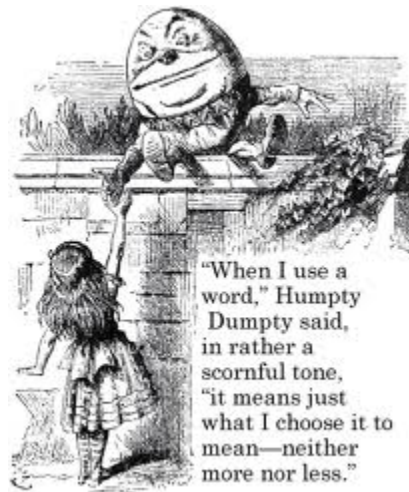
reblog if you found it! :)

A thought experiment

- ⇒ can you tell me your current weight?
- ⇒ can you tell me what weight you will be in five years time?
- ⇒ if I told you my weight now, could you tell me what my weight will be in five years time?

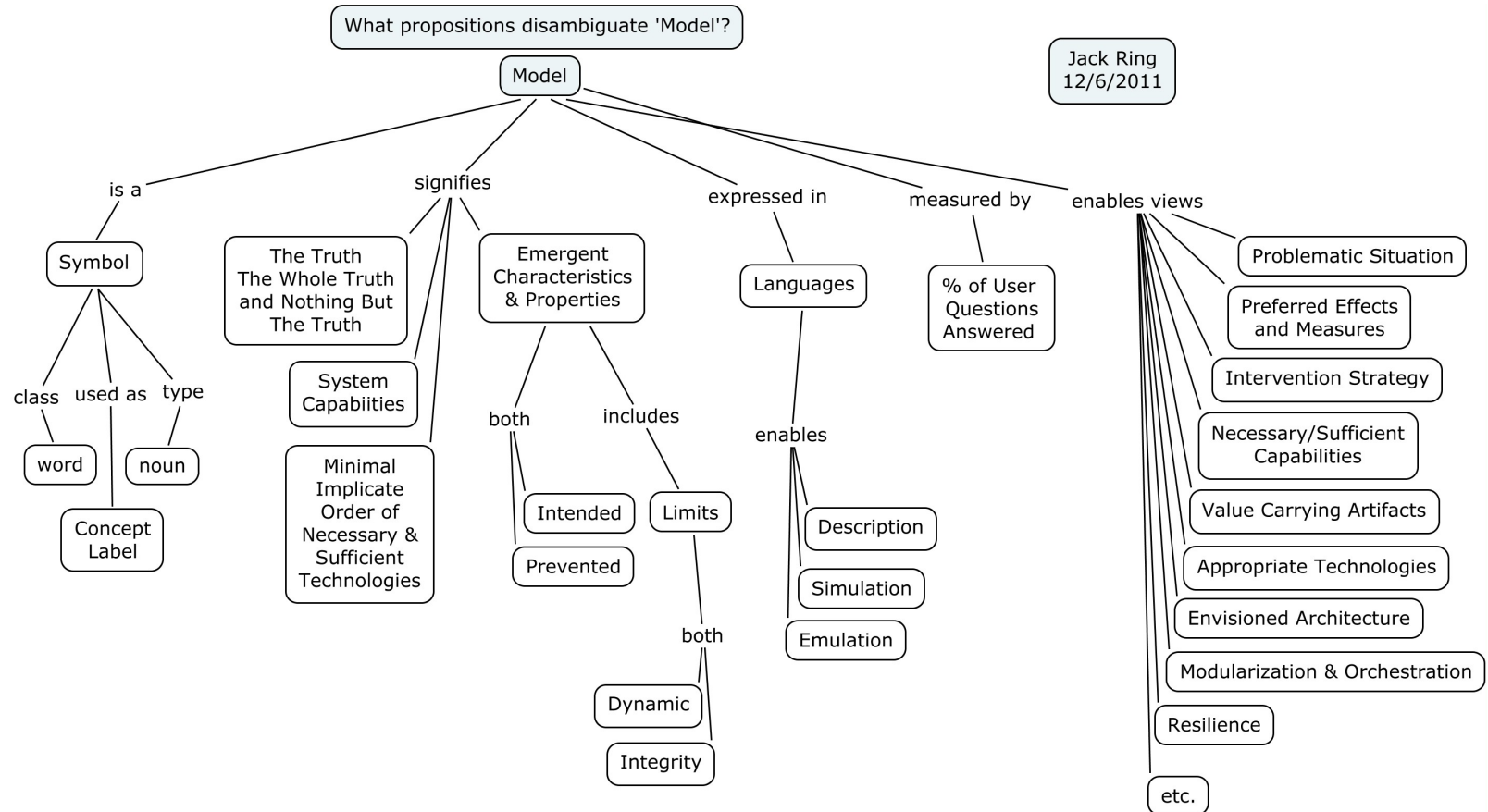
Language

➤ every act of communication is, in some way, an act of translation
(Gregory Rabassa - If This be Treason, 2006)



(Lewis Carroll - Alice Through The Looking-Glass, 1871)

Model



We think we know how it works

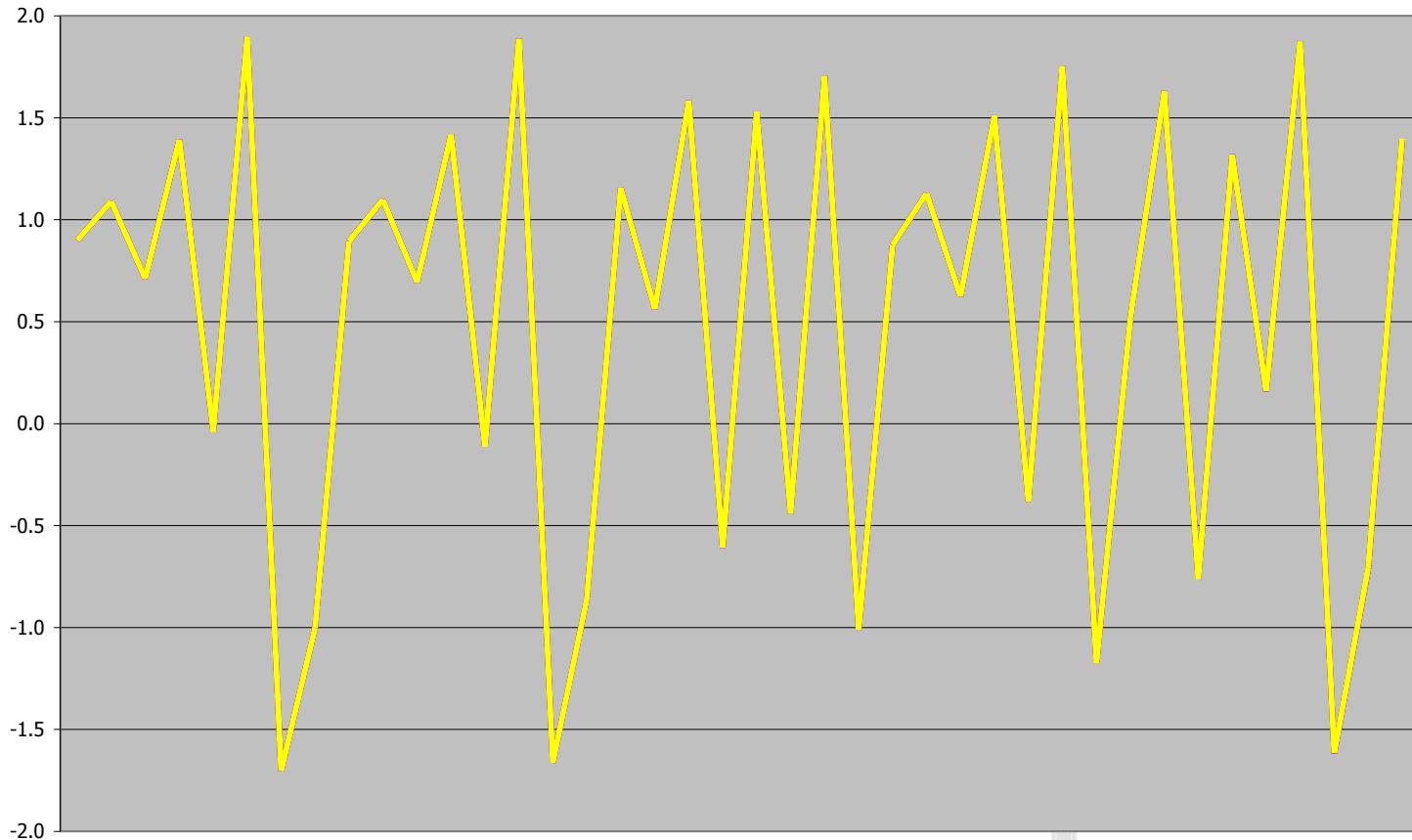


We think we understand...

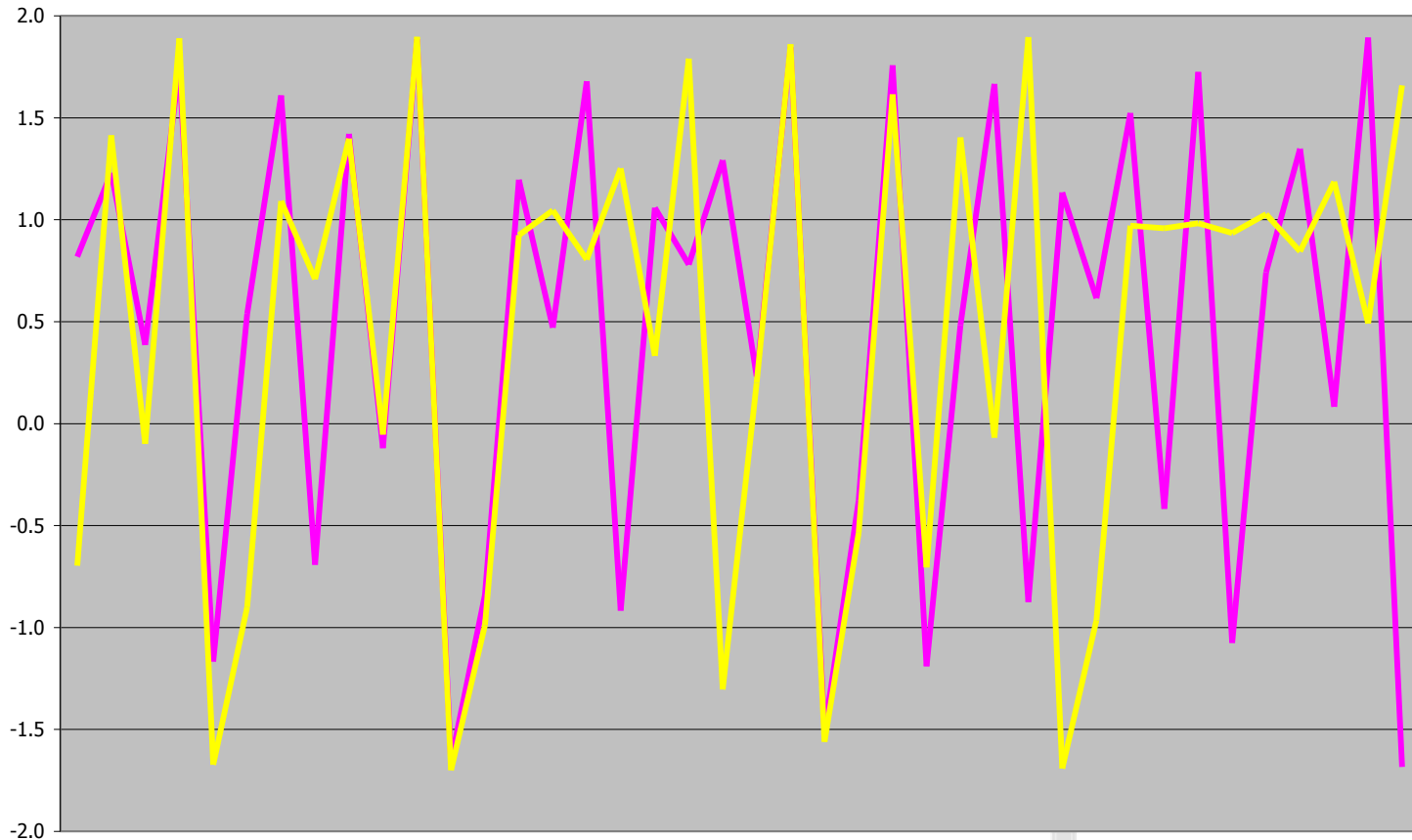
- ☞ supportability – things break we need to fix them
- ☞ how many spares do we need?

The Illusion of Knowledge

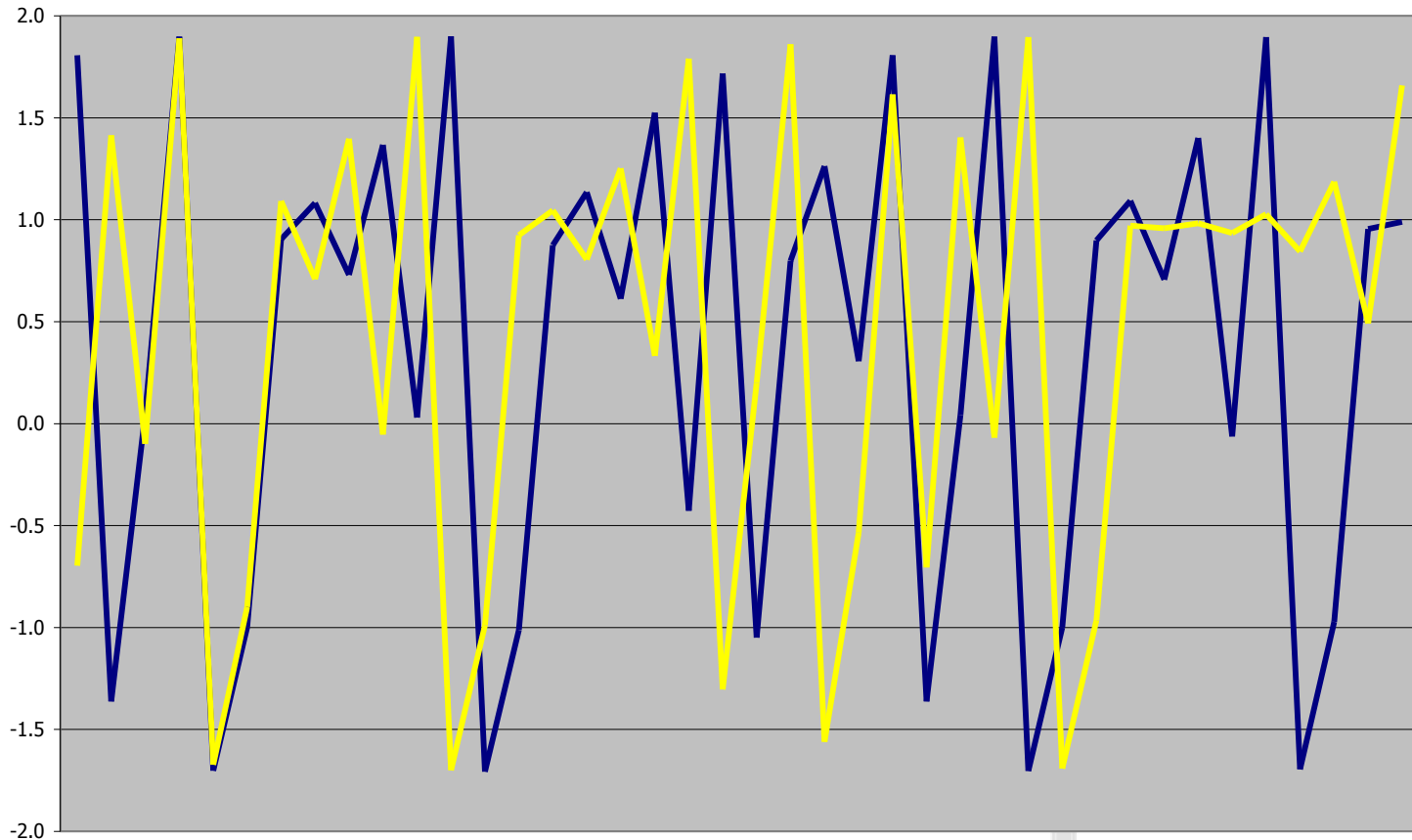
$$X_{n+1} = 1.9 - X_n^2$$



$$X_{n+1} = 1.9 - X_n^2 - \text{precision}$$



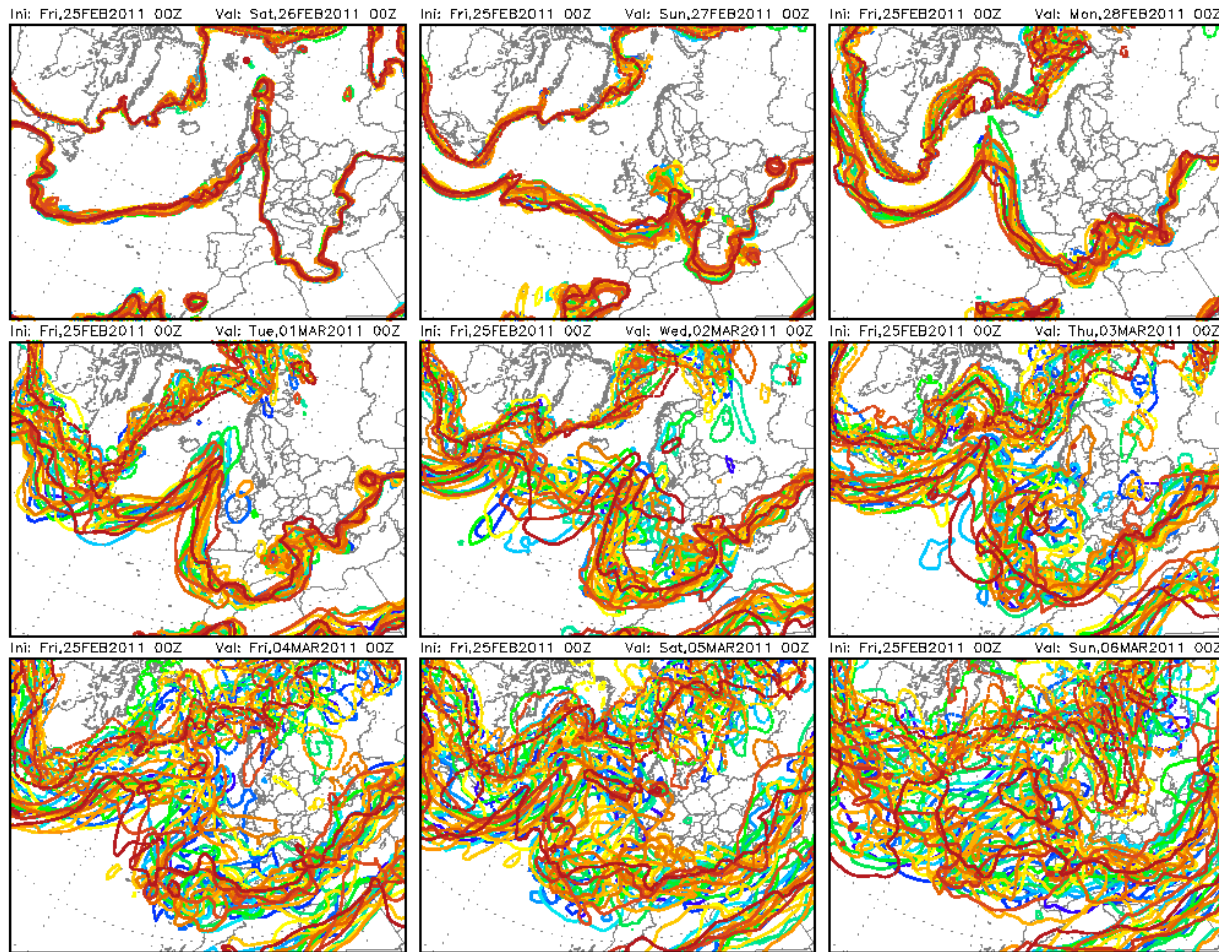
$$X_{n+1} = 1.9 - X_n^2 - \text{sensitivity}$$



Equipment failure rates

Name	Quantity	Failure Rate	Equipment Cost	Cost to Repair	Arisings (per year)	Cost
Equipment 287	4356	0.000001	£294	£294.00	381.59	£112,186
Equipment 32	2	0.000027	£130,000	£32,500.00	4.66	£151,290
Equipment 36	105	0.000100	£1,135	£1,000.00	919.80	£919,800
Equipment 152	2	0.000200	£32,385	£8,096.25	35.04	£283,693
Equipment 357	2	0.000020	£66,710	£16,677.50	0.00	£58
Equipment 151	10	0.000004	£5,575	£1,393.75	3.73	£5,201
Equipment 178	4	0.000020	£11,775	£2,943.75	7.01	£20,630

Put it all together



The Illusion of Knowledge



**KNOW
LESS
AND
THINK
MORE**