

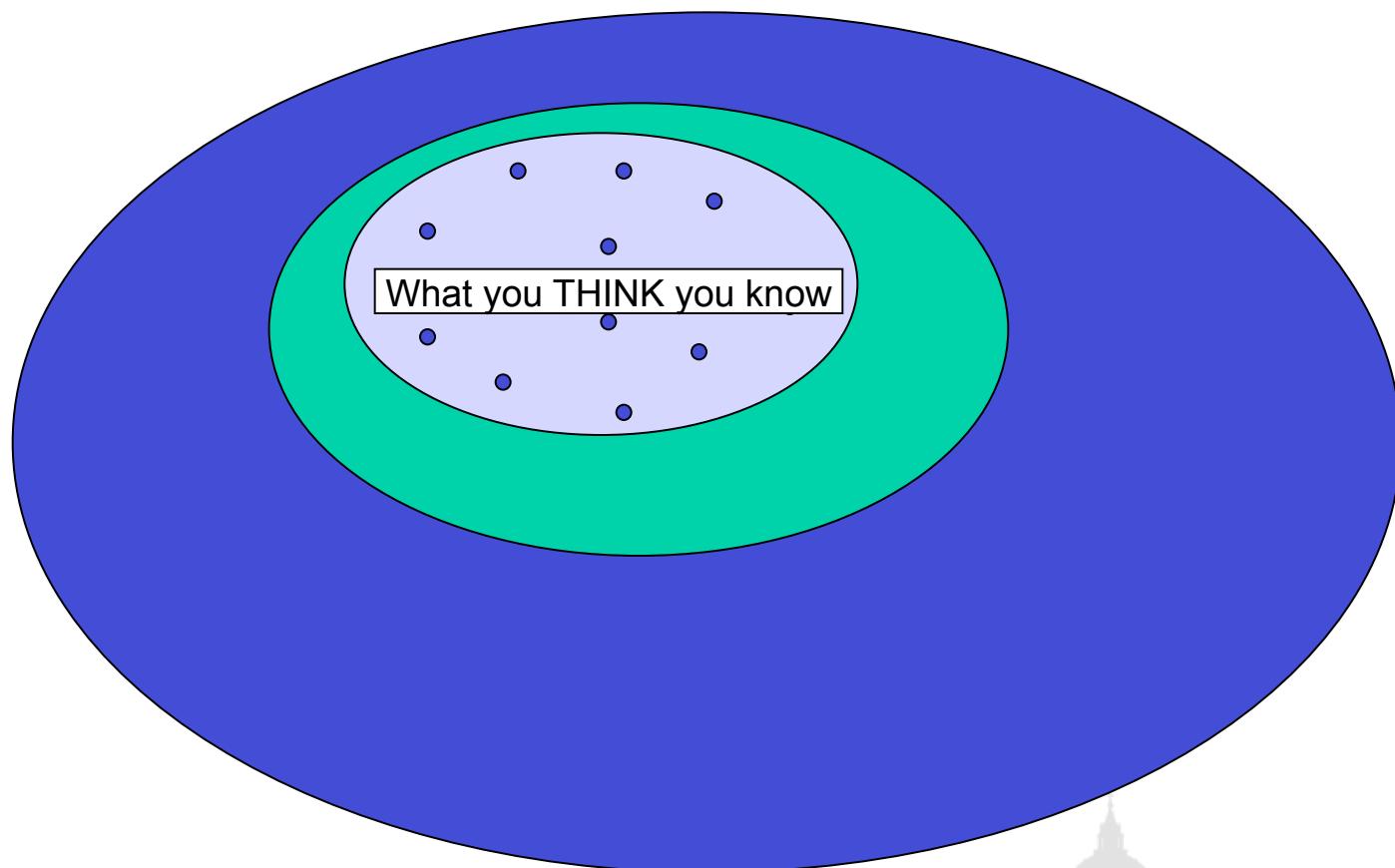


Emergence : The Illusion of Knowledge

George R. McConnell
Finmeccanica – SELEX Elsag



What we don't know



Knowing Kills Thinking

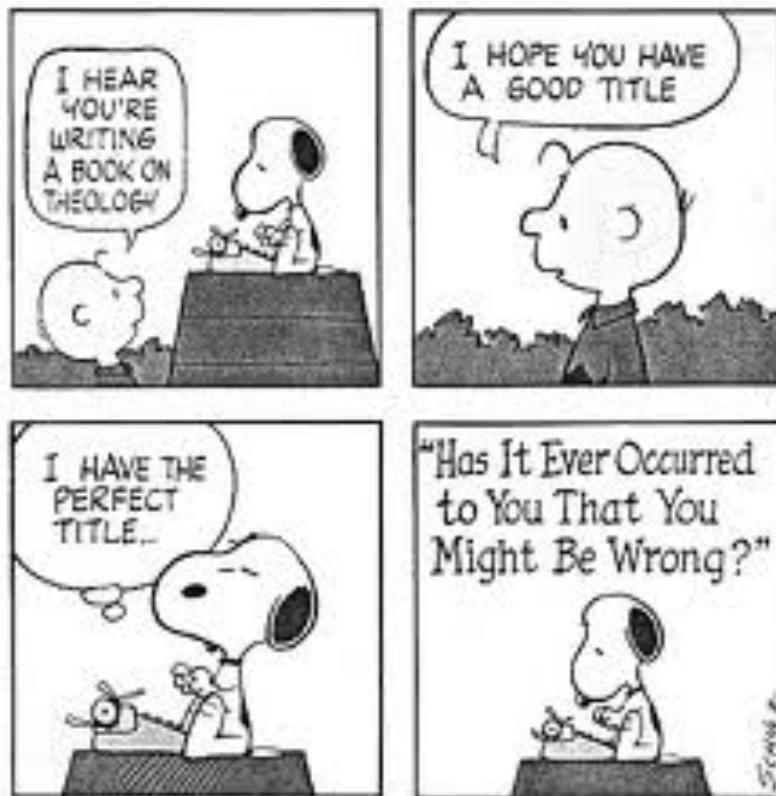
An easy question

- 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! :)

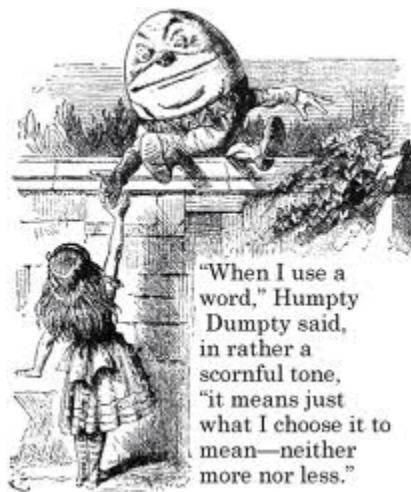
A thought experiment

- ↳ 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

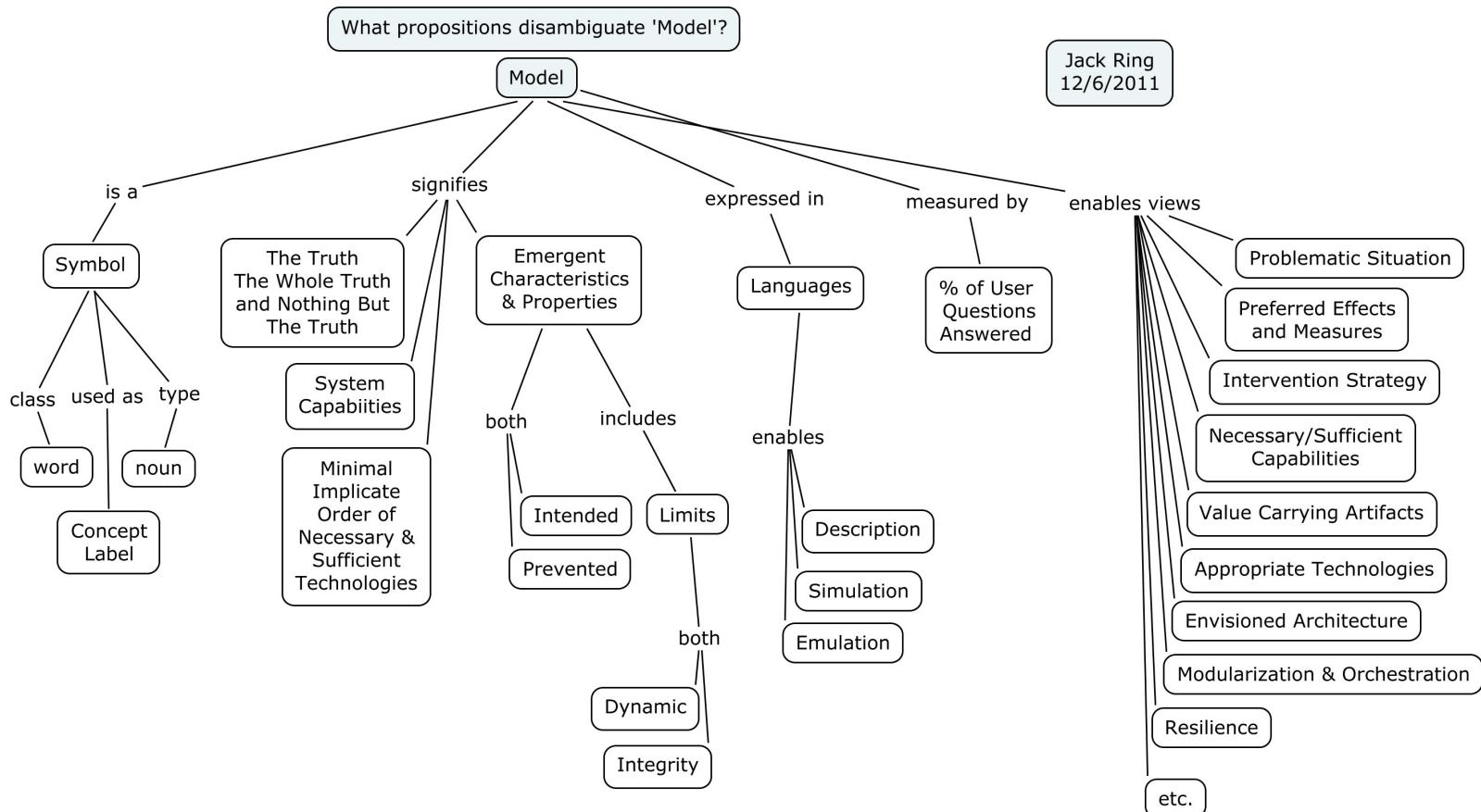
(Gregory Rabassa - If This be Treason, 2006)



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

The Illusion of Knowledge

Model



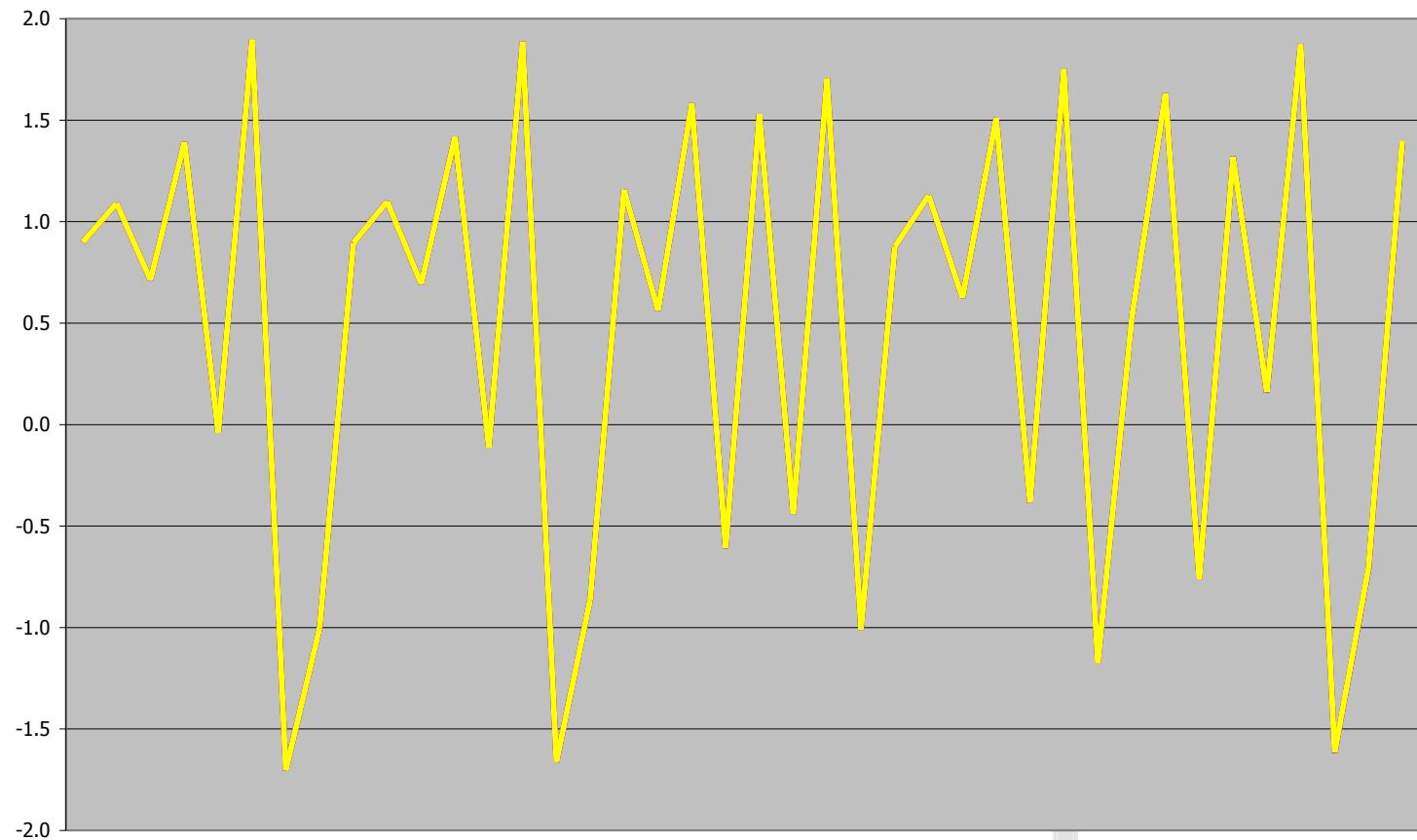
We think we know how it works



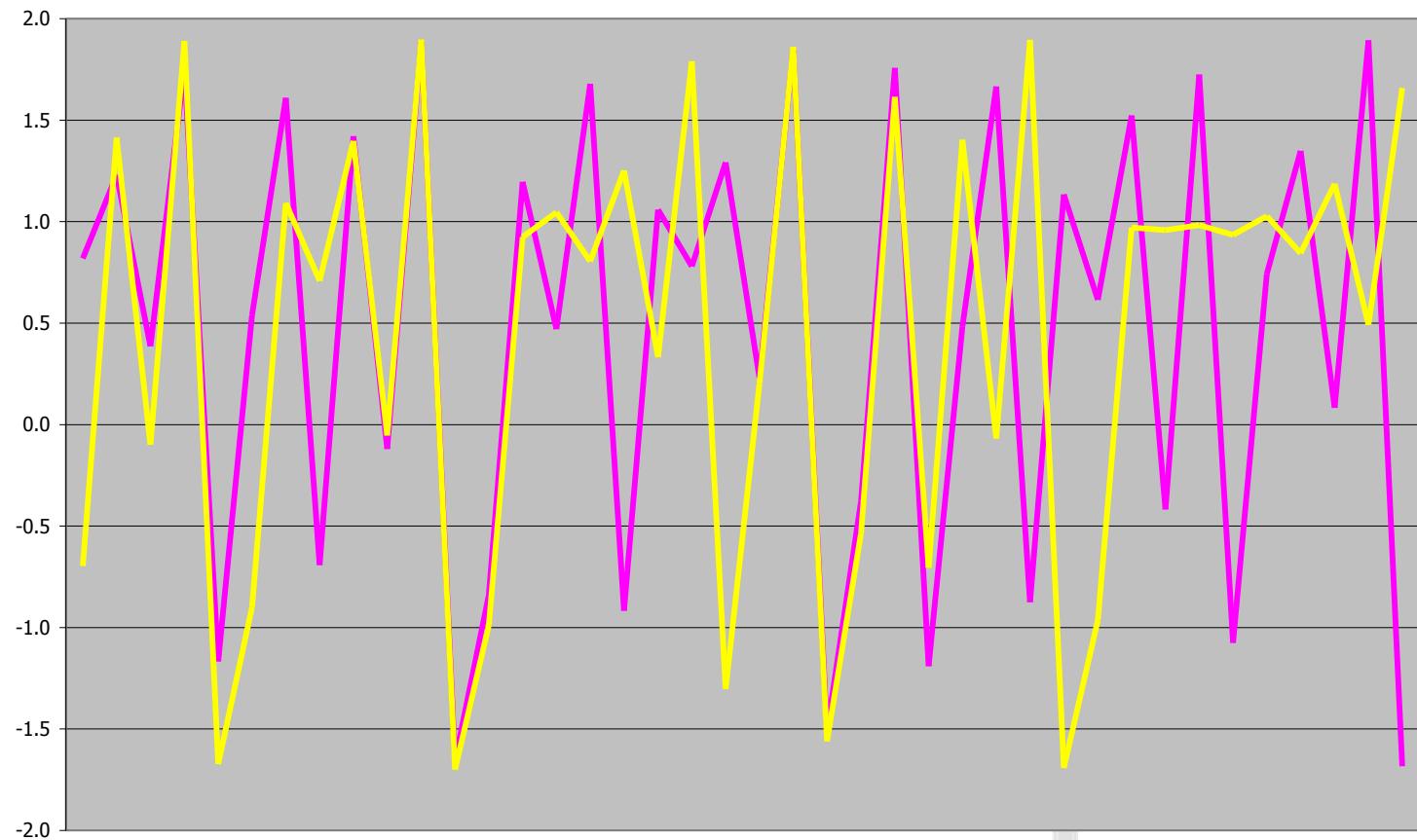
We think we understand...

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

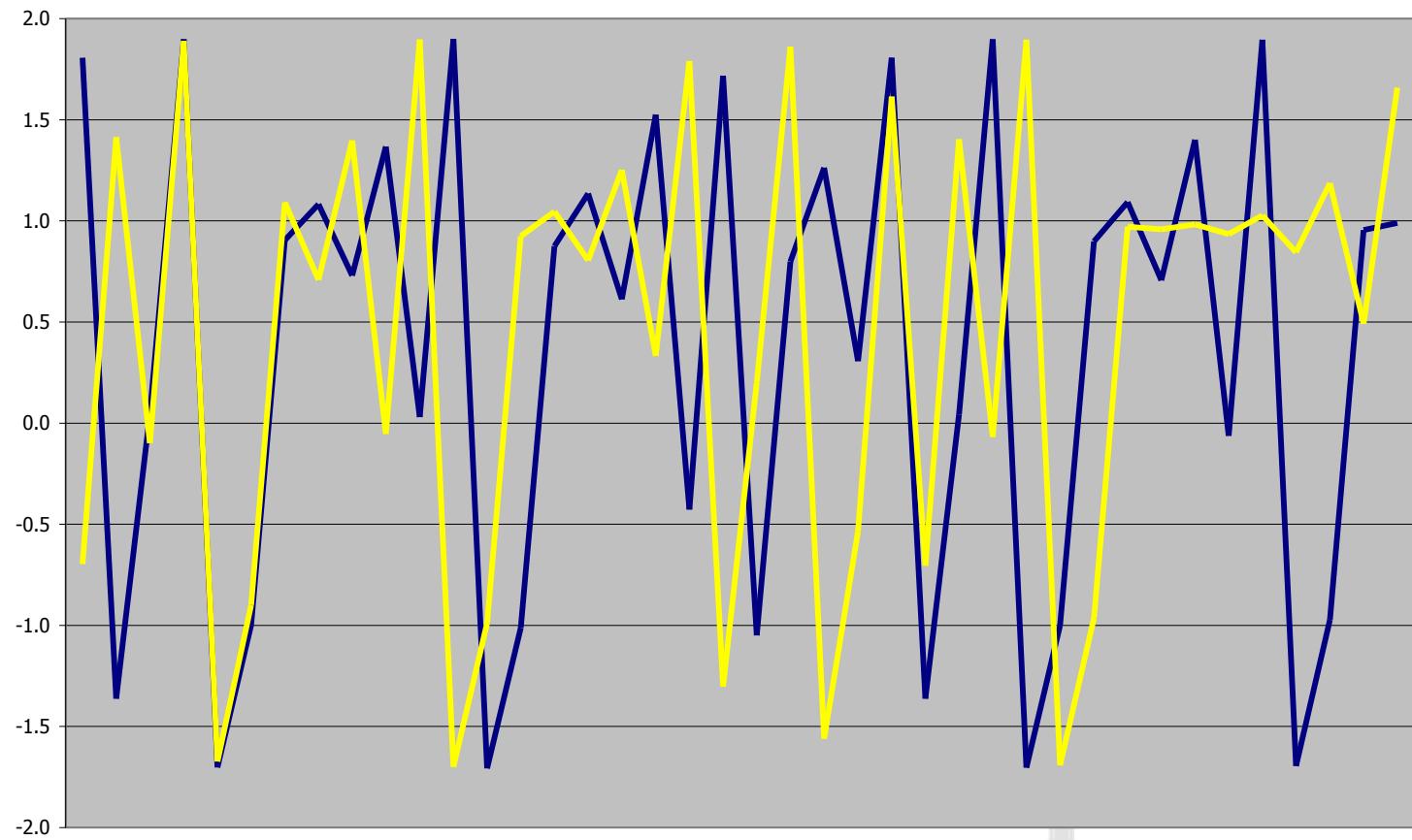
$$X_{n+1} = 1.9 - X_n^2$$



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



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



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

