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Interests Some slides to illustrate

Presentation · July 2019

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Dinah Murray
The London School of Economics and Political Science

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Some of the authors of this publication are also working on these related projects:



Yes these are chapters in ed Kapp, Autistic Community and the Neurodiversity Movement [View project](#)



Monotropism & the mind as an interest system [View project](#)

Interests

Some slides to illustrate

*Magpie's
trove*

Aristotle, Rousseau, Kant, Hegel, Marx Weber,
Nietzsche

Dewey, Mead, Vygotsky, Whorf

Wittgenstein (late)

Freud, Luria

World Wars

Habermas, Lyotard, Merleau Ponty

Prigogine, Thom

(Autism)

Goffmann, Mey

Neisser, Kahneman, Minsky

Friston

From fleeting moments to lifelong
concerns

If something is relevant/salient it is so in
relation to an interest

An interest is a dynamic probe, fuelled
by a scarce processing resource

An interest has force, flow, momentum

The quotidian mind is apparently occupied with interests and these interests compete for attention which is Conserved and finite, ie N = supply of metabolites.
 Interests are aroused and depressed both by autocatalysis, sensory input and by the state of the rest of the system. The arousal of an interest is its emotional content ie the value of $X(i,j)$.

From Mind as a Dynamical System, Mike Lesser and Dinah Murray ca 1995

$$\frac{dx_{i,j}}{dt} = \left(bf(x_{i,j} + wx_{i,j}^2) + b \frac{(1-f)}{4} \left((x_{i-1,j} + wx_{i-1,j}^2) + (x_{i+1,j} + wx_{i+1,j}^2) + (x_{i,j-1} + wx_{i,j-1}^2) + (x_{i,j+1} + wx_{i,j+1}^2) \right) \right) \left(1 - \frac{\sum_{i',j'} x_{i',j'} e^{-\rho d(i,j;i',j')}}{N \sum_{i',j'} e^{-\rho d(i,j;i',j')}} \right) - mx_{i,j}$$

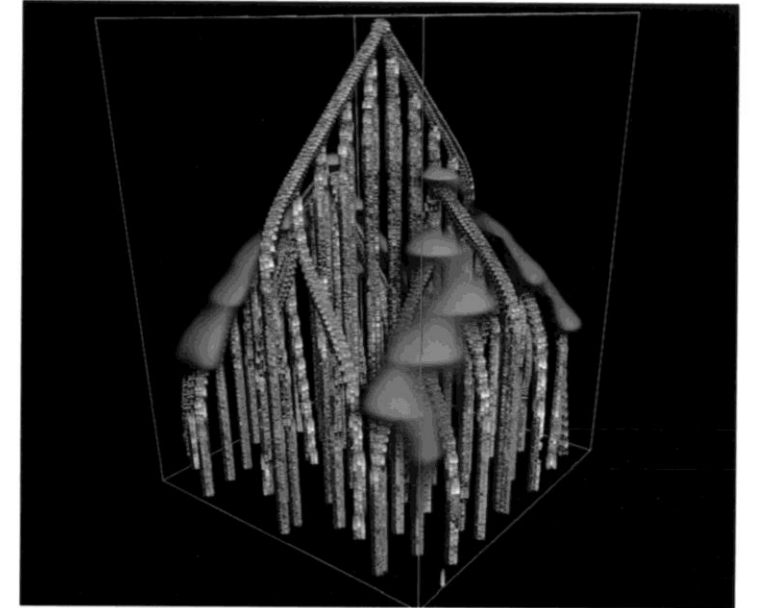
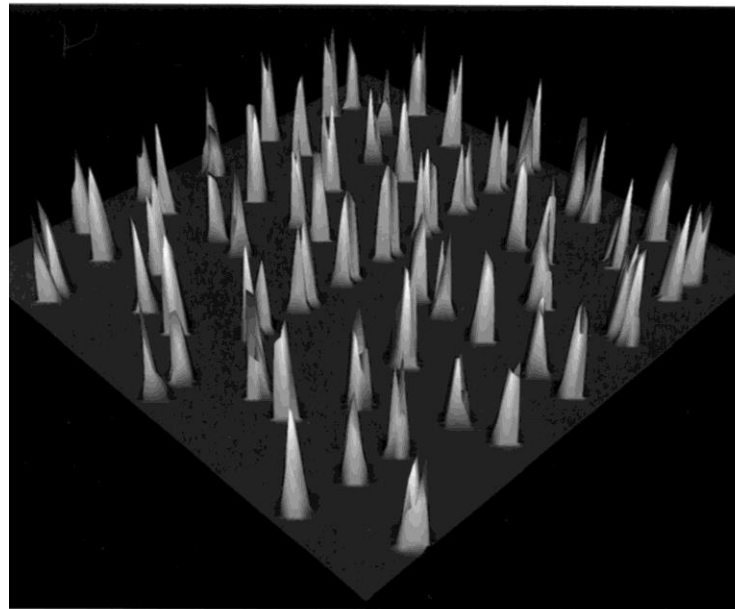
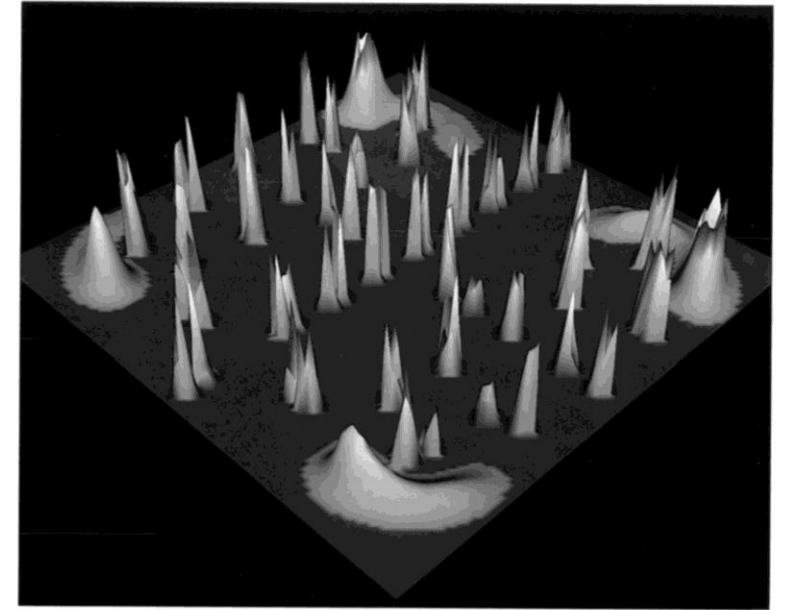
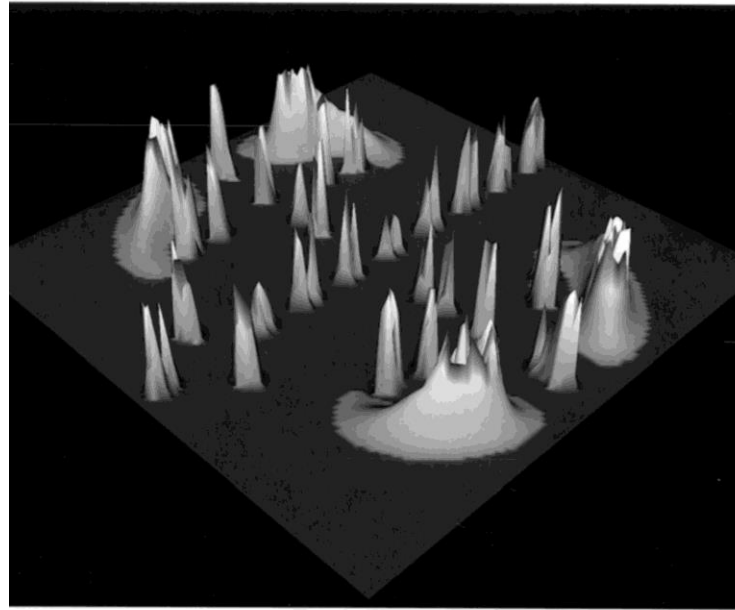
$$\frac{dy_{i,j}}{dt} = \left(sf(x_{i,j}y_{i,j} + wy_{i,j}^2) + s \frac{(1-f)}{4} \left((x_{i-1,j}y_{i-1,j} + wy_{i-1,j}^2) + (x_{i+1,j}y_{i+1,j} + wy_{i+1,j}^2) + (x_{i,j-1}y_{i,j-1} + wy_{i,j-1}^2) + (x_{i,j+1}y_{i,j+1} + wy_{i,j+1}^2) \right) \right)$$

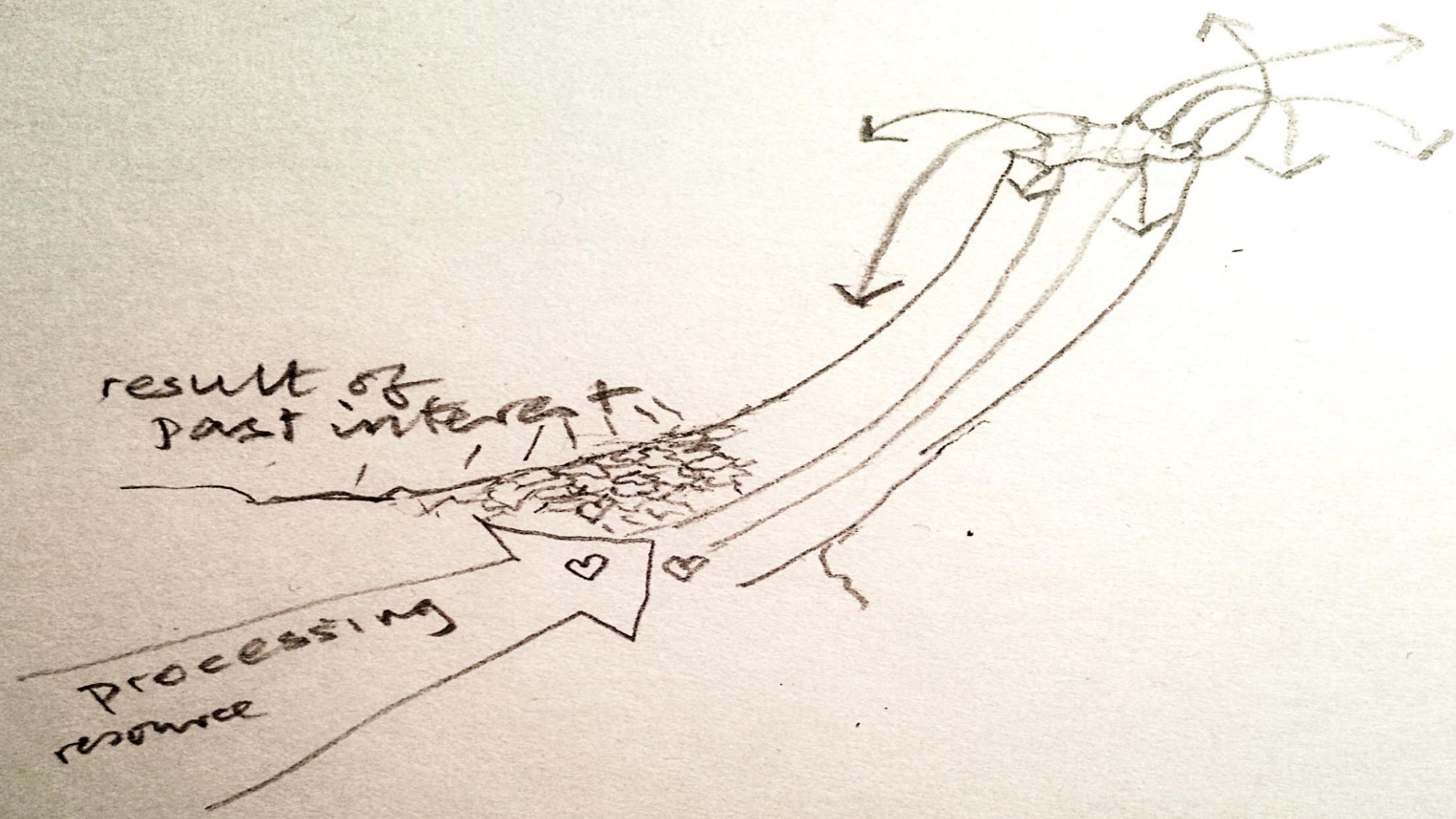
N = attention
 $x_{i,j}$ = interest
 $y_{i,j}$ = activity
 b = the rate at which attention becomes interest
 s = the rate at which interest becomes activity
 m = the rate at which arousal decays
 w = the rate of positive feedback
 f = the basal rate of associational excitation of interests
 ρ =the decay factor in resource overlap with distance
 $d(i,j;i',j')$ = the distance between $x_{i,j}$ and $x_{i',j'}$

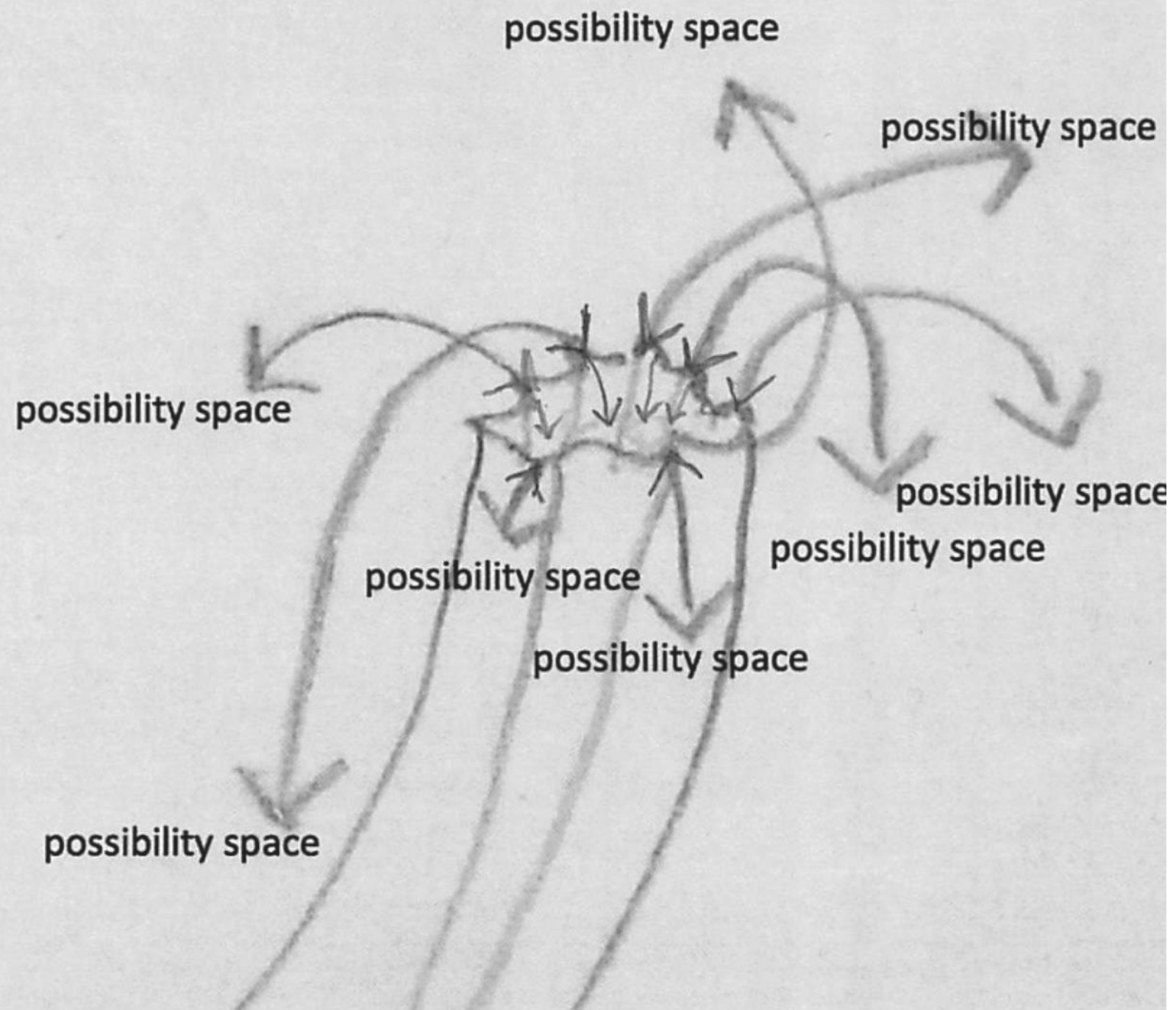


The system comprises two spatially discretised differential equations ($X(i,j)$ and $Y(i,j)$) arranged as the elements of a Volterra-Lotka equation. Similar to a chemical diffusion reaction model. The state space is closed (toroid). Its metric is cognitive map space with the addition of perception and imagination. Emotion is reduced to a single aversive/attractive value which, in combination with the state of the matrix provides the value of $X(i,j)$. The differential equations are fluctuated to simulate an unknown environment. The brain is modeled as a noisy far from equilibrium network. The dynamic modeled conforms with present psycho-neurological findings

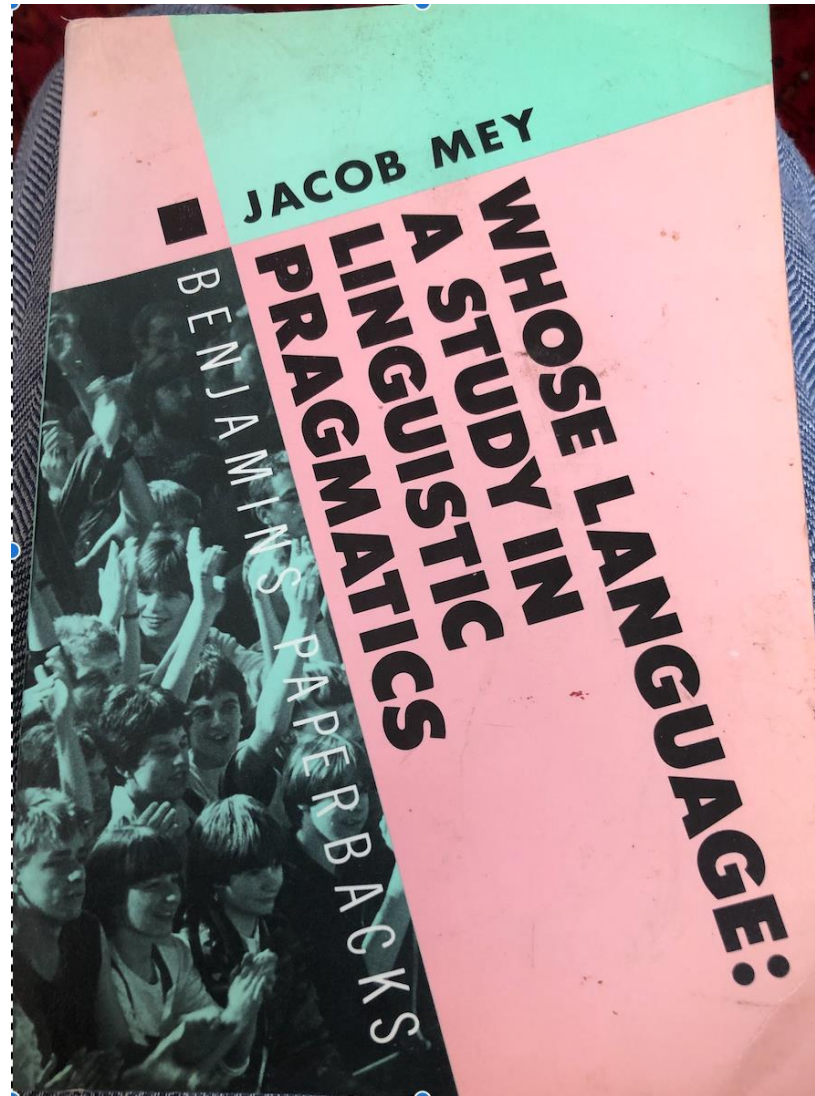
Images from 1991







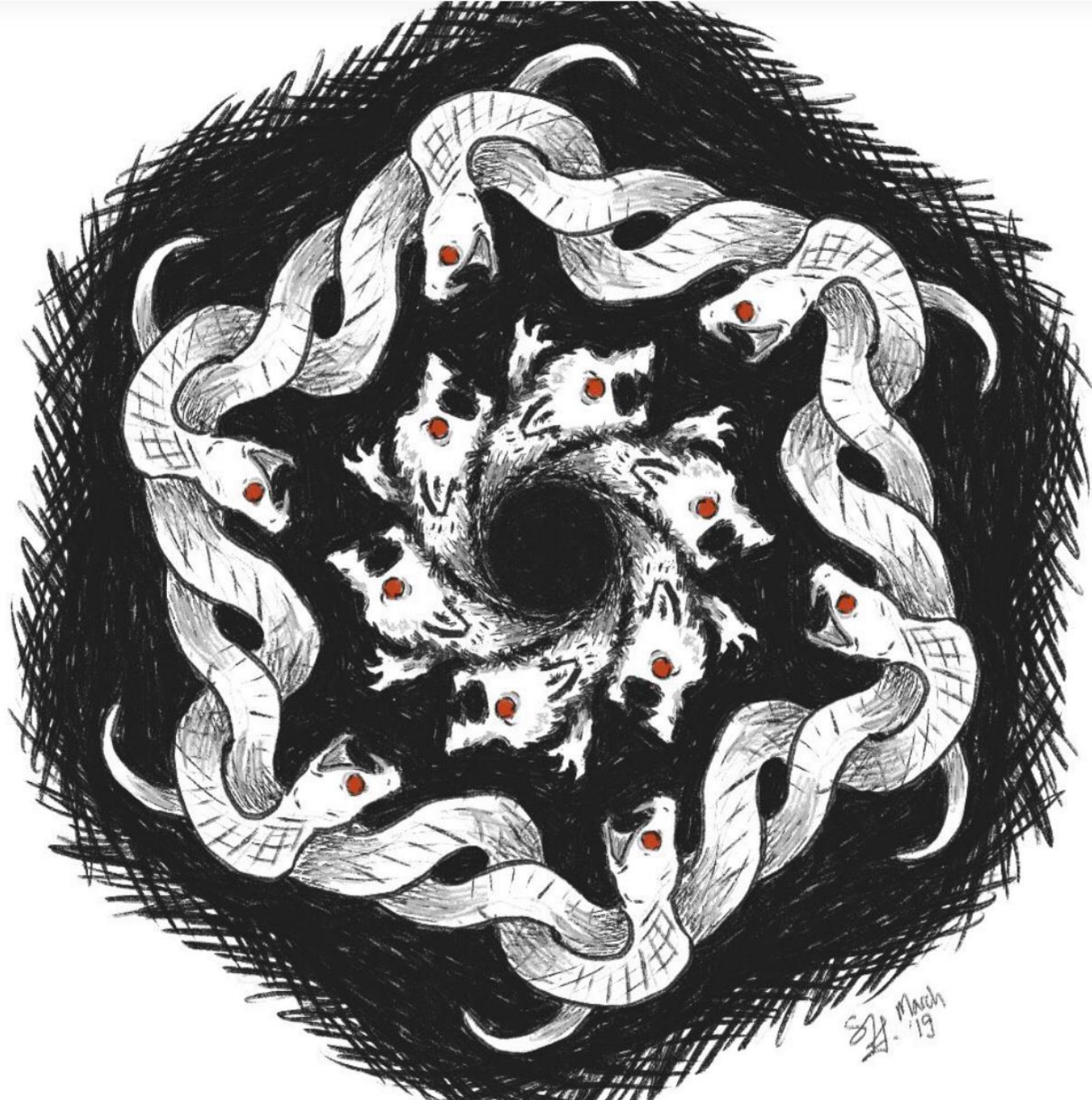
This, from 1985, is about Language as a Manipulative Tool – it's very persuasive! ;}





I felt like a huge force was overwhelming me and I couldn't stop it: suddenly I

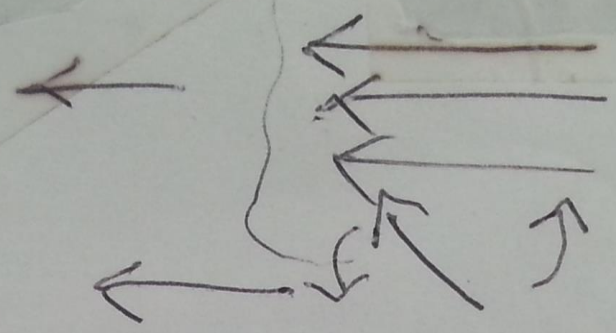
How it feels



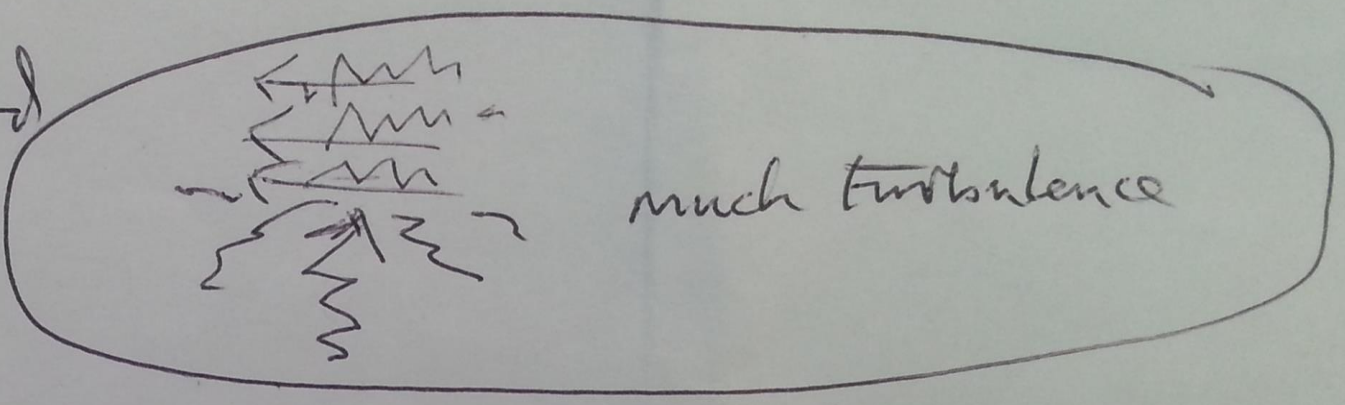


How it looks

little turbulence

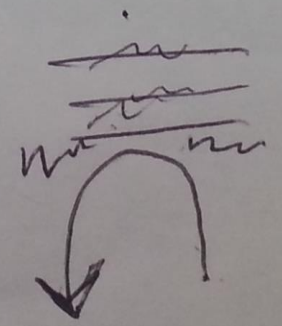


reduce likelihood
of these



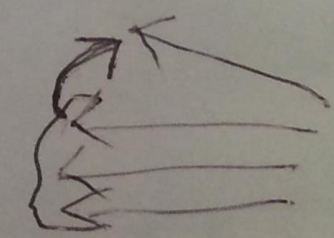
much turbulence

these →



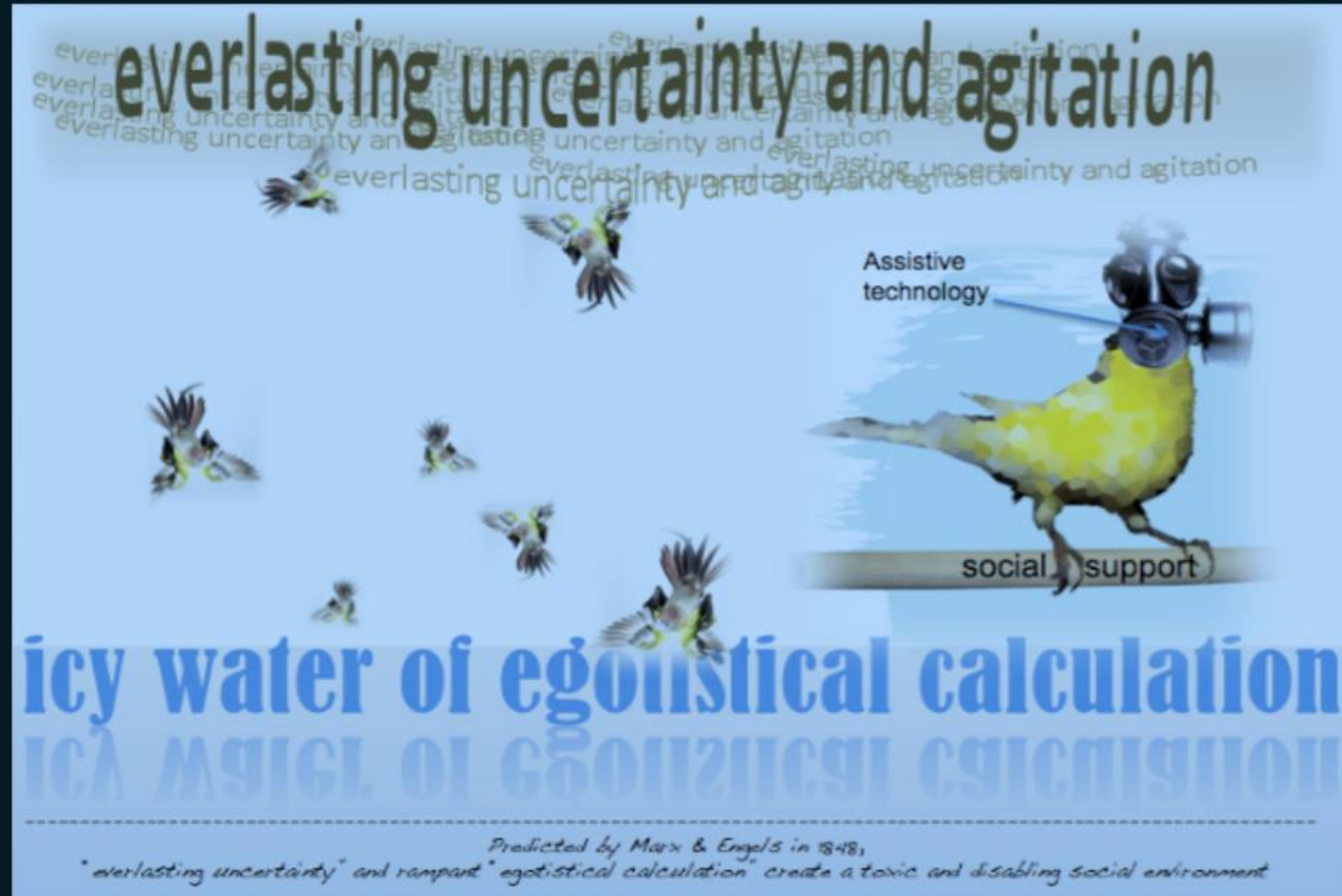
increase
likelihood of these →

learning experience
OR show
power of
attraction
(eg of words)



<http://www.larry-arnold.net/Autonomy/index.php/autonomy/article/view/OP3> for Freestone Wilson article (the postcard was assembled by me)

Miners' Canaries of Civilization... ***- Freestone Wilson***



Miners' canary image first appeared in Nature, flying canaries are from dkimages

Illustrated in glorious

GRETA THUNBERG

**NO ONE
IS TOO SMALL
TO MAKE
A DIFFERENCE**



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OUT 3R

Thanks to

- the Playing A/Part project and all its members
- Damian Milton for the synergy
- Panda Mery for the help pruning my tangled thoughts
- Sonny Hallett for their great pics
- Jacob Mey for supporting my work in the 80s, when I was also inspired by his
- Karl Friston for his generous and beautiful mind

Friston, K. J., Parr, T., & de Vries, B. (2017). The graphical brain: Belief propagation and active inference. *Network Neuroscience*, 1(4), 381–414. https://doi.org/10.1162/netn_a_00018