


# Nursing Development: Evolution, Memes and the Science of Chaos.

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# Nursing Development

- Why, despite evidence, is it so difficult to introduce new ideas?
  - Why do other practices refuse to go away, despite evidence suggesting they are useless or even harmful?
  - Why is nursing development such a struggle?
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# Research

- Too much emphasis on qualitative
  - Need to redress balance with more quantitative research which produces generalisable evidence about cause and effect.
  - Is there a problem with nurses and maths/ statistics?
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# Education

- Pre-reg. lacks sufficient science
  - Advanced practice nurses will be judged by the standard of the post not by the standard of a reasonable nurse. Including medical skills into practice means you will be judged by the standard of a reasonable doctor.
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# Protocols

- Protocols are a useful quality tool, but...
  - Protocols are no substitute for a repertoire of scientific knowledge combined with psychosocial, interpersonal skills and professional accountability.
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# Boundaries

- Inter-professional boundaries are potential zones of conflict which inhibit practice development
  - Expanding universe of health care however means there need not be boundary conflict as there is more than enough work to be done for all of us!
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# Boundaries & Chaos

- In a dynamic system what happens next depends upon what happened last.
  - They have fractal boundaries which can never be fully resolved into a clear cut dividing line for all cases
  - Fuzzy boundaries are the natural order of things, so why not in health care?
  - Rigid adherence to boundaries is artificial and therefore inhibits care
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# Dawkins & The Selfish Gene

- The successful gene readily replicates itself conferring a survival advantage upon the organism that is the carrier.
  - Genes are neither good nor bad, they just do not care, they merely replicate some more successfully than others which then die out. Hence the term 'selfish gene'
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# Dawkins and Memes

- Memes are bits of culture (eg. ideas) that act in the same way as genes.
  - Successful memes are those which have fecundity ie. are readily copied and so spread rapidly. They also confer an advantage upon their adherents.
  - Humans are the just the physical hosts which allow the memes to get around
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# Nurses and Pain Relief

- Meme : Nurse knows better than patient
  - Fecundity as student nurses imitate and learn from RNs in practice and education does not fully explain physiology of pain
  - Confers advantage upon nurse as reinforces his/her power and status.
  - As a result this is a successful meme
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# Nurse Practitioners

- Legitimising what has gone on for years
  - Shortages of medical staff
  - Medical involvement in NP education
  - Nurses seen as responsible & reliable by managers
  - NP role very attractive to nurses feeling frustrated and held back by NHS hierarchy.
  - Educational provision initiated by RCNI
  - NP qualification confers advantage upon the nurse, manager and relevant doctors.
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# Nursing Models

- An example of a failed meme because:
  - Lacked fecundity as they were not readily copied due to lack of connection with reality and the very difficult language/ concepts involved in many of them
  - Failed to confer any advantage upon the would be user in practice
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# Mememes & Practice Development

- Memetics offer explanations of why some new ideas are rapidly adopted
  - Why other new ideas fail to be adopted and fade away
  - Some beliefs and practices, despite contradictory evidence, refuse to go away.
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# Complexity Theory

- Complexity is the study of macroscopic collections of such units that are endowed with the potential to evolve in time


(Coveney and Highfield 1997)

The result is known as an emergent property






# Complexity Continued

- The whole is greater than the sum of the parts
  - Relationships between things is more important than the things themselves
  - Reductionist approach fails to see the big picture, what happens when the pieces are put back together and interact with each other (Holism)
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# Chaos

- Chaos is part of complexity theory
  - Sensitive dependence upon initial conditions + feedback characterise dynamic systems
  - Result: apparently chaotic unpredictable behaviour but within, lie rules which have to be discovered 'deterministic chaos'
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# Chaos in 1758


- For want of a nail the shoe was lost
- For want of a shoe the horse was lost
- For want of a horse the rider was lost
- For want of a rider the battle was lost
- For want of a battle the kingdom was lost

Benjamin Franklin 1758.






# Chaos and the NHS

- The NHS is a dynamic system, so is the health of each person as what happens next depends upon what happened last
  - Predicting the effects of change is therefore very uncertain and hazardous
  - Action Research methodology crucial to get rapid feedback on effects of change.
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# Complexity & Practice Development

- Complexity implies we have to look far beyond the immediate bits we are going to change and look at the inter-relatedness of everything involved. A project will ‘take on a life of its own’ as emergent properties evolve from the initial changes made.
  - Totality of change will usually be different than what was envisaged
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# Chaos and Change

- Outcomes are difficult to predict unless the rules governing deterministic chaos are known.
  - Complexity and Chaos suggest always expect the unexpected and be prepared for this, close monitoring (action research) of practice development is therefore essential.
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# Practice Development Summary

- More quantitative research needed
  - More science in nursing education
  - Exploit meme theory to change practice
  - Focus on boundaries, fuzzy and flexible
  - Whole is greater than sum of parts, inter-relatedness as well as reductionist philosophy
  - Chaos theory implies prediction uncertain
  - Develop strong action research agenda.
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# Research Principles

Any new theory must :

1. Explain things better than existing or rival theories
  2. Lead to testable predictions that turn out to be correct when tested.
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# Future Research Agenda?

- Can memes offer an explanation of the problems encountered implementing change in nursing?
  - Can complexity and chaos theory also help explain the problem of change?  
Can we track emergent properties, demonstrate health care is a dynamic system, find the rules of deterministic chaos, demonstrate fractal boundaries?
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