

DEMING LEARNING NETWORK

Tony Miller

The Funnel Experiment
and
other insights into Quality Management

The Challenge

- Why do Organisations still get it so wrong?
- We have Mission Statements that aim for excellence – what is it that stops us?

Scotland's:

- education system produces 20% failures.
- Prisons are overflowing.
- NHS still struggles to cope with demand.

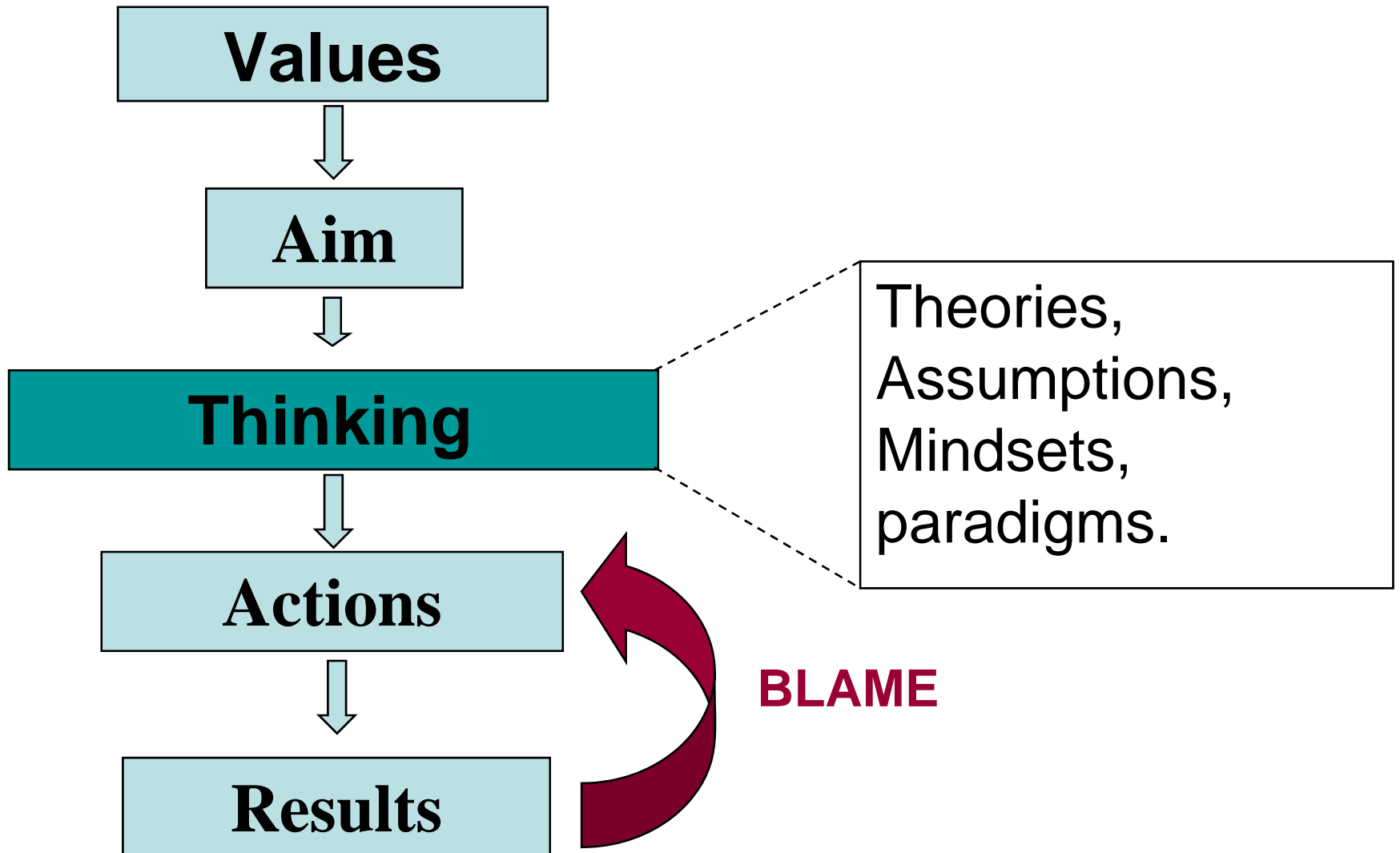
Possible Reasons

The barriers to progress:

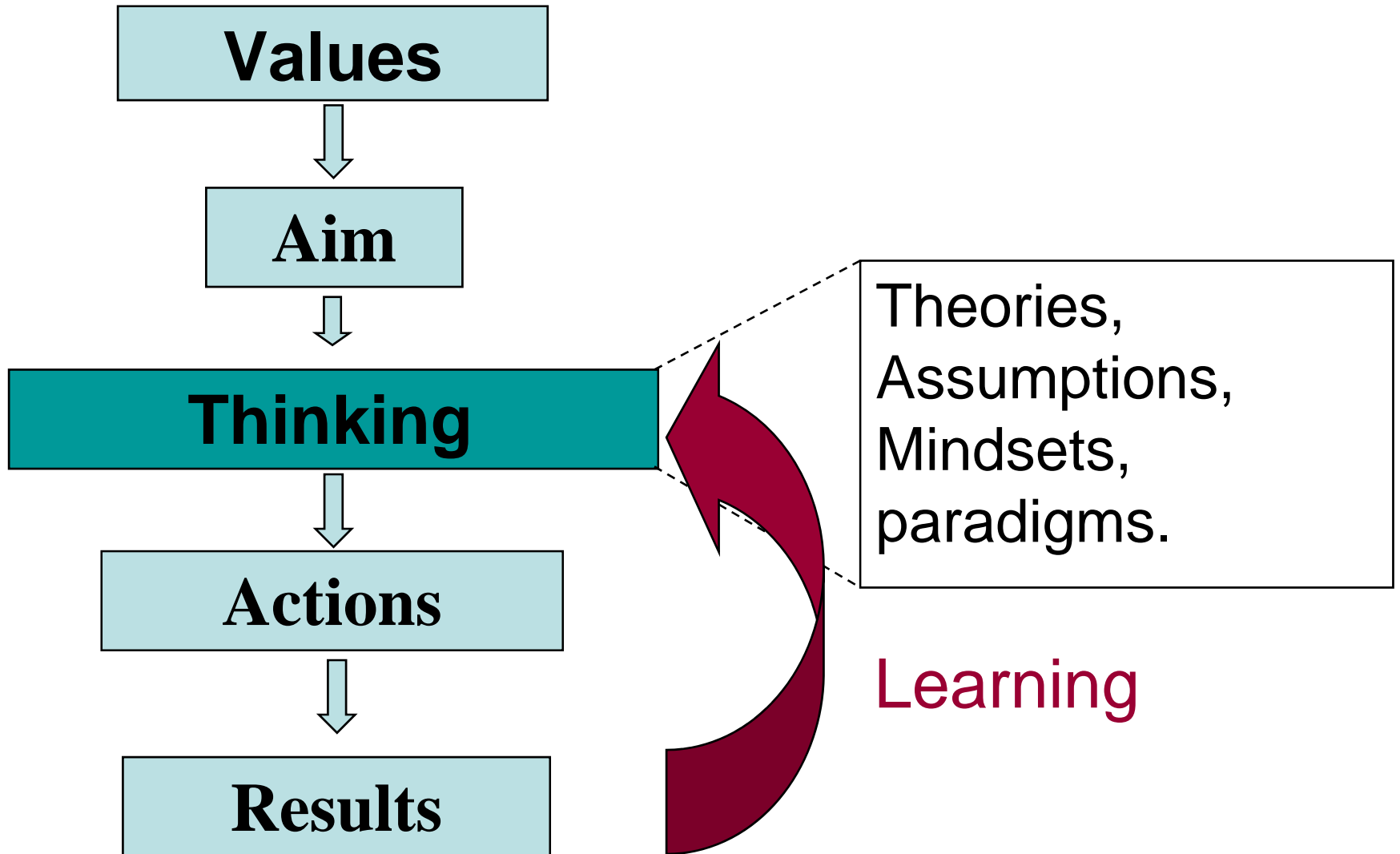
- are invisible to us.
- belong to a different system.
- are beyond our knowledge and understanding.
- the intellectual task is greater than we first thought.

Best we can do is start learning -
through research and experimentation.

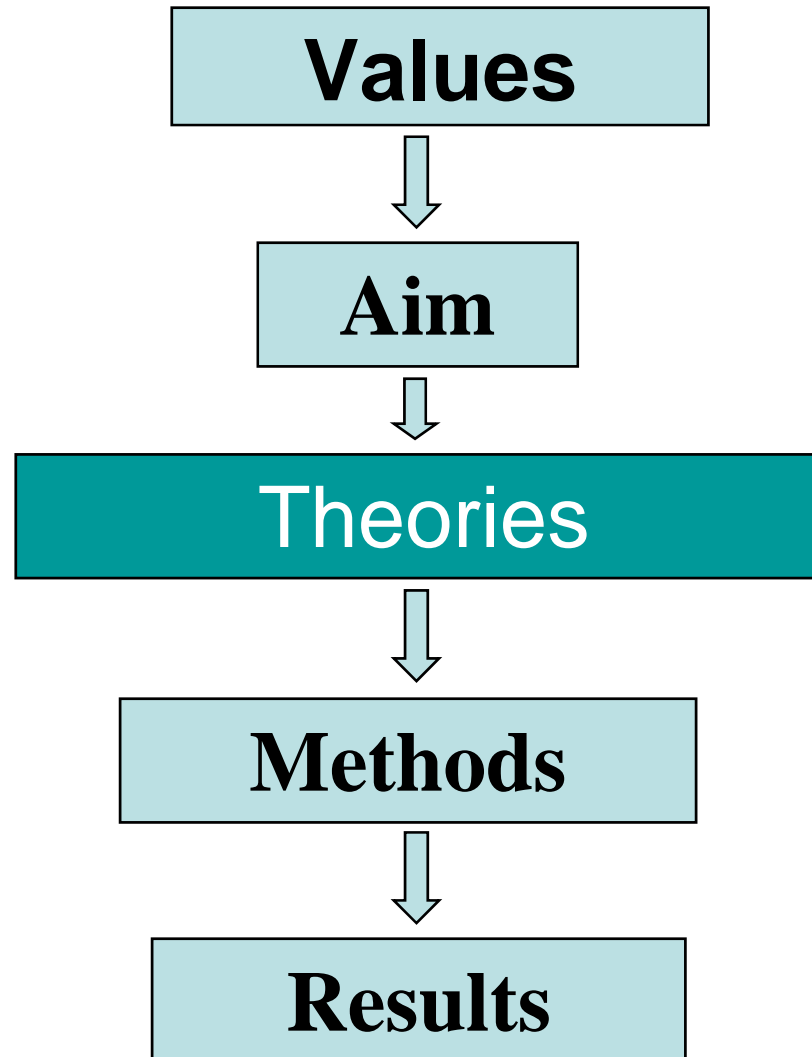
How to Learn



How to Learn



Getting to Results



What Theories ?

Amongst others:

Theories on:

- How to get the best out of people.
- How people respond to pressure.
- What is important in management.
- How pay affects performance.
- How do you 'control' the company.

What Theories ?

Amongst others:

Theories of:

- how people can work together to achieve an agreed Aim.
- How organisations work and how best to manage them.
- How we can place management on a scientific basis.

What Theories ?

Uncomfortable truths:

We all have our theories which influence our 'methods'.

Usually we don't recognise them as such, we regard them as self-evident truths.

We find it 'oh so difficult' to change these theories.

What Theories ?

Some examples:

Worker performance is related to how hard they work.
It is fair to pay someone extra for performing better.
Without a target workers would not know what is expected of them.

Optimise the parts and the whole will be optimised.
If there is a decline in three successive performance reports, something is wrong.

Everyone is motivated by pay.



The Starting Point of management theory

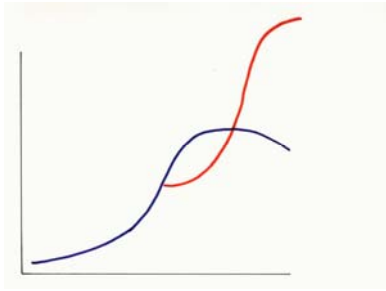
- The Military
- Textile and Railway industries
- Poorly educated workforce - coming off the land
- Aim - control of labour and maximum return on capital
- Life Expectancy
 - Male -38
 - Female 40

Daniel McCallum

1815-1878

His principles of management were:

- **A proper division of responsibilities - job descriptions**
- **the hierarchical organisation structure - with grades**
- **Detailed written instructions - procedures**
- **Authority with responsibility**
- **A upward reporting system**
- **A means of identifying responsibility - blame for mistakes**



Today's Language

- **Job Descriptions and Staff Appraisals**
- **The hierarchical organisation chart**
- **Staff grades**
- **Procedures and standards**
- **Reporting systems against targets**
- **Accountability - blame**

Points to Note

Our thinking seems to still reflect 1850s thinking.

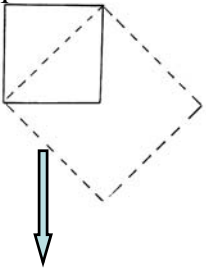
- It is based on reductionist thinking.
- Is this still adequate in 21st century?
- Do the problems we face now call for a different approach?

Convergent to Divergent Problems

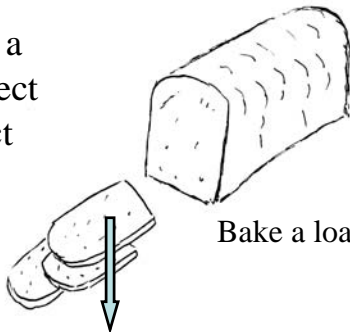
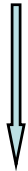
Galileo



Double
the area of
a square



Speed of a
solid object
on impact



Bake a loaf of bread

Educate your daughter to be an
informed critical thinker



The Thinking Challenge

Convergent Problem

- simply apply a technique.
- no deep knowledge required on the nature of the problem.

Divergent Problem

- There are conflicting requirements.
(e.g. order-innovation, trust-responsibility.)
- Deep thought required of the problem.

Problem

Convergent

Divergent



Context

Isolated
cause/effect
process

Multi-component
complex system

Systems
involving people

Solution

One clear,
repeatable
solution



Different
solution for
each case

Method

Develop a
technique



Engage with the
problem

Challenge

Find the
solution



Define the
problem

Outcome

Doing



Behaviour based on
knowledge

The Thinking Challenge

Two Forms of Knowledge

1. A Priori

What we consider as beyond question, i.e. our assumptions, our common sense.

2. Contingent

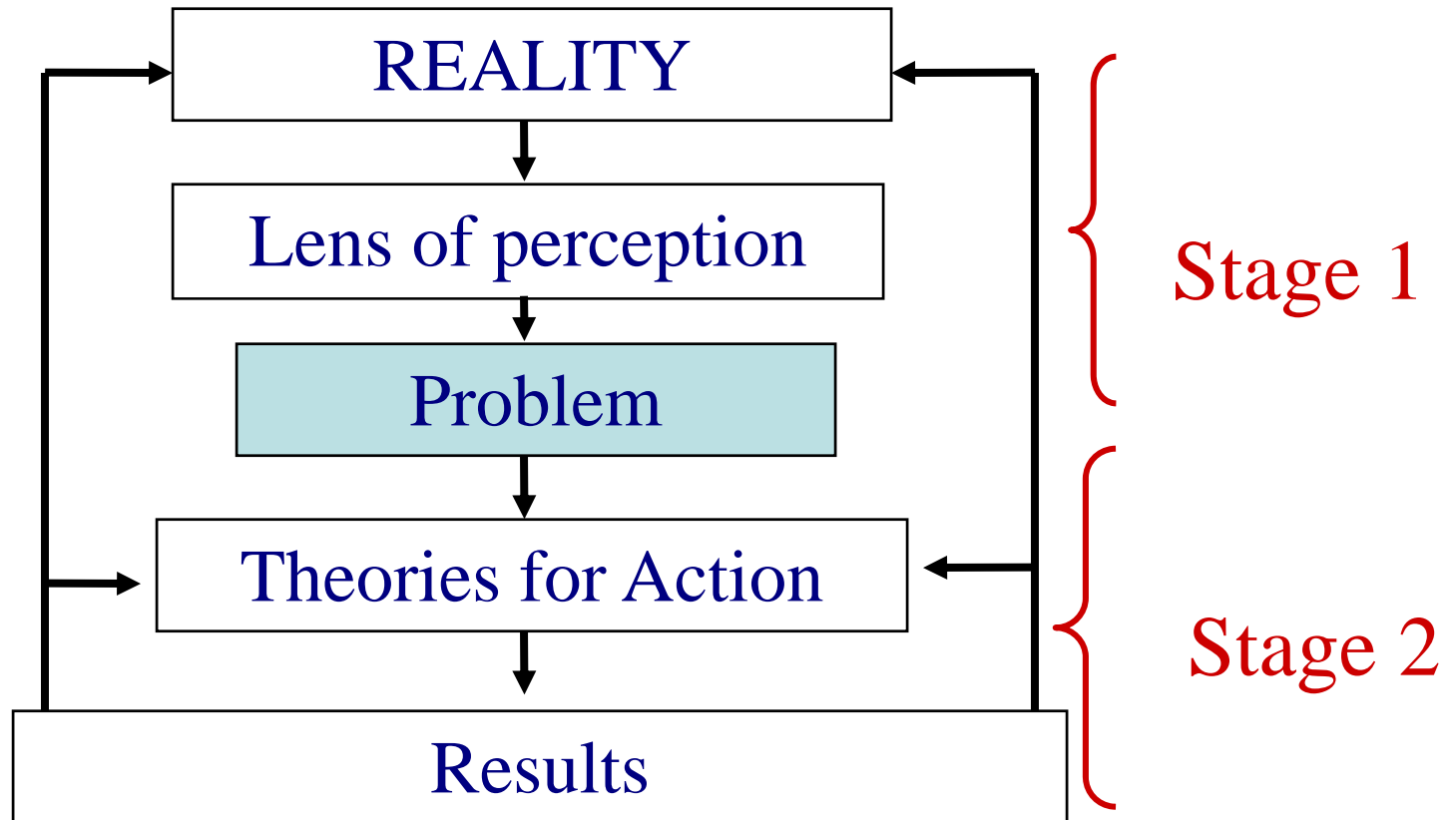
Knowledge dependent on experimentation i.e. might not always be true.

The Thinking Challenge

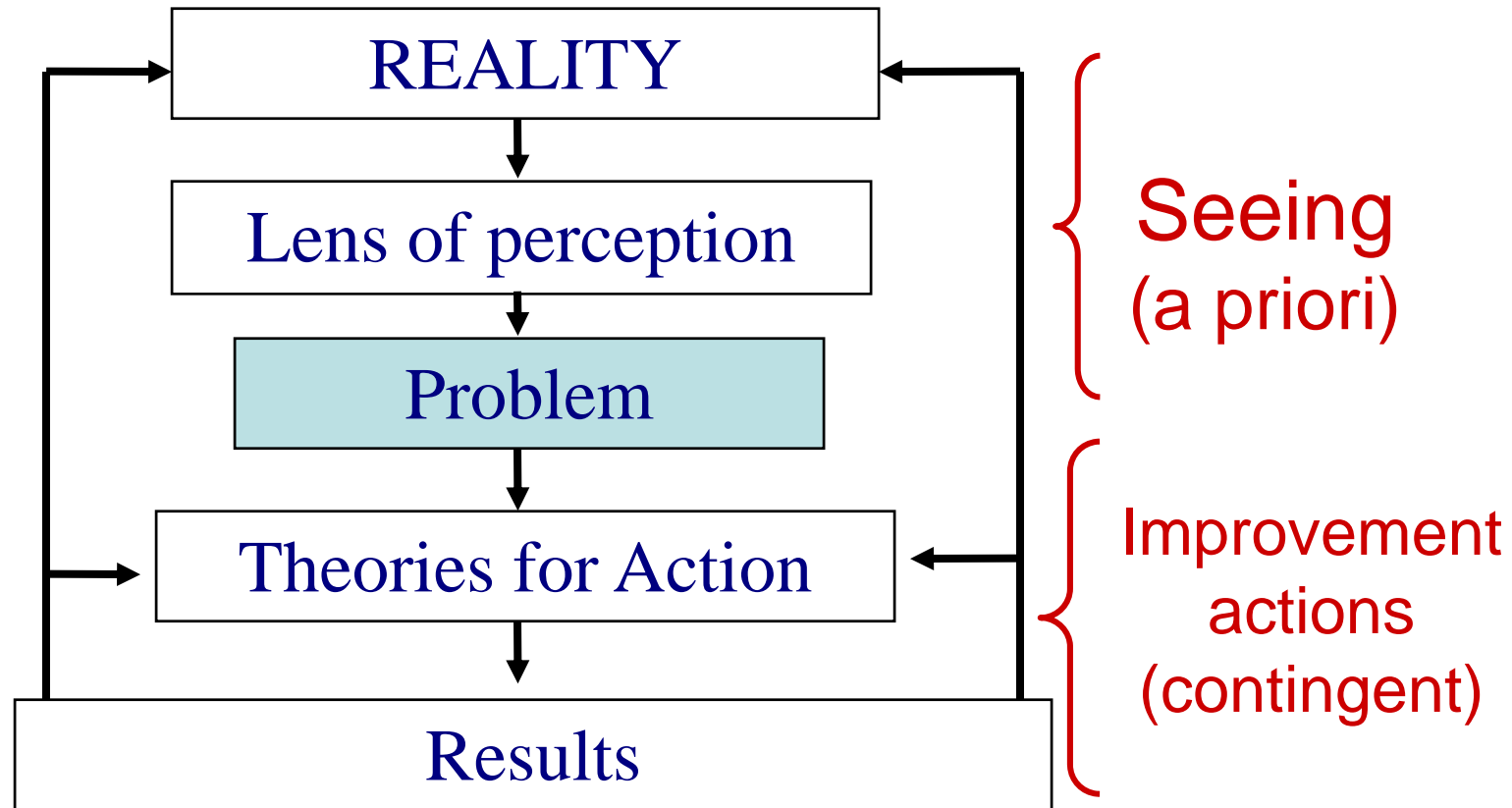
Two Forms of Knowledge

1. General Principles which apply anywhere
What we consider as generally true,
beyond question, i.e. our assumptions, our
common sense, our theories.
2. What works in our experience
Knowledge dependent on experimentation
i.e. might not always be true.

Approaching the Problem



Approaching the Problem



Knowledge lead Management

What we perceive sets the context for our action-thinking.

Theories of ***Perception*** set the scene for our theories for ***Improvement*** and subsequent Actions.

Perception

We view the world through the lenses of our theories:

The big step forward will come from applying 20th century thinking to the divergent problem of managing organisations.

But which theories ?

Where do we look ?

Which branches of science do we call on ?

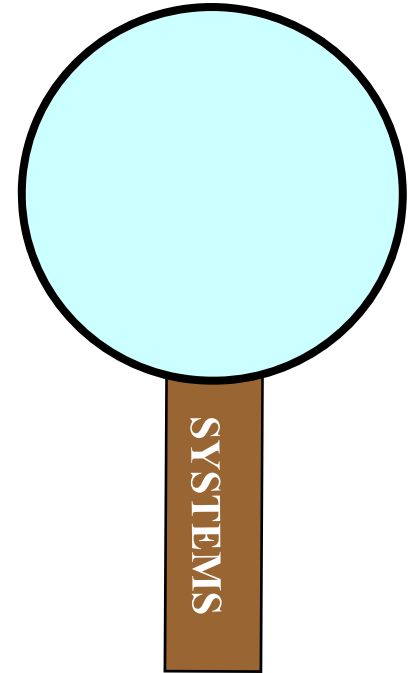
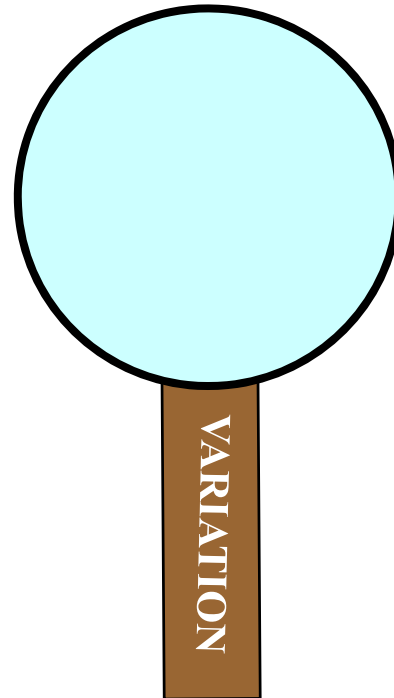
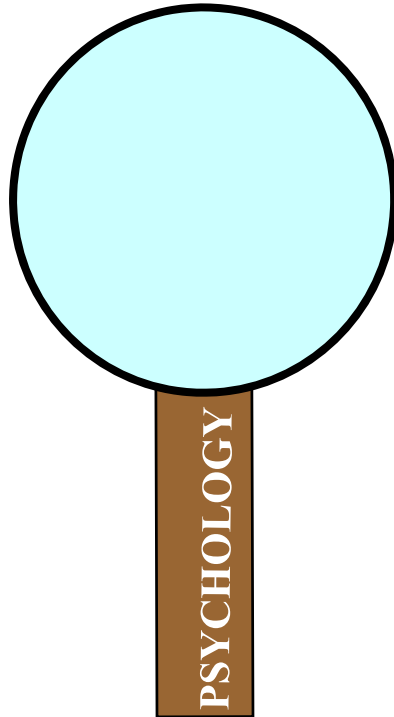
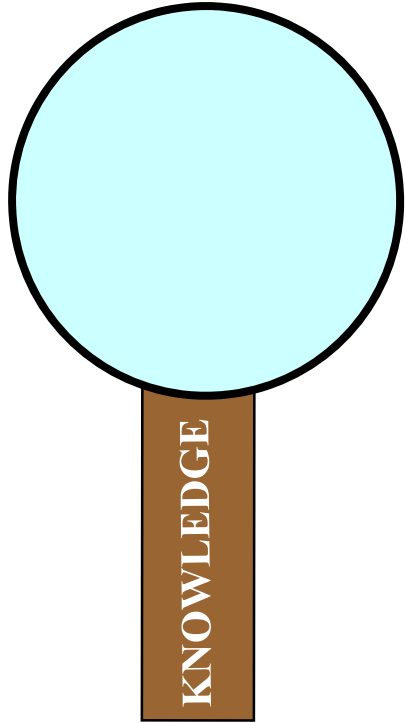
Perception - Deming's Lenses

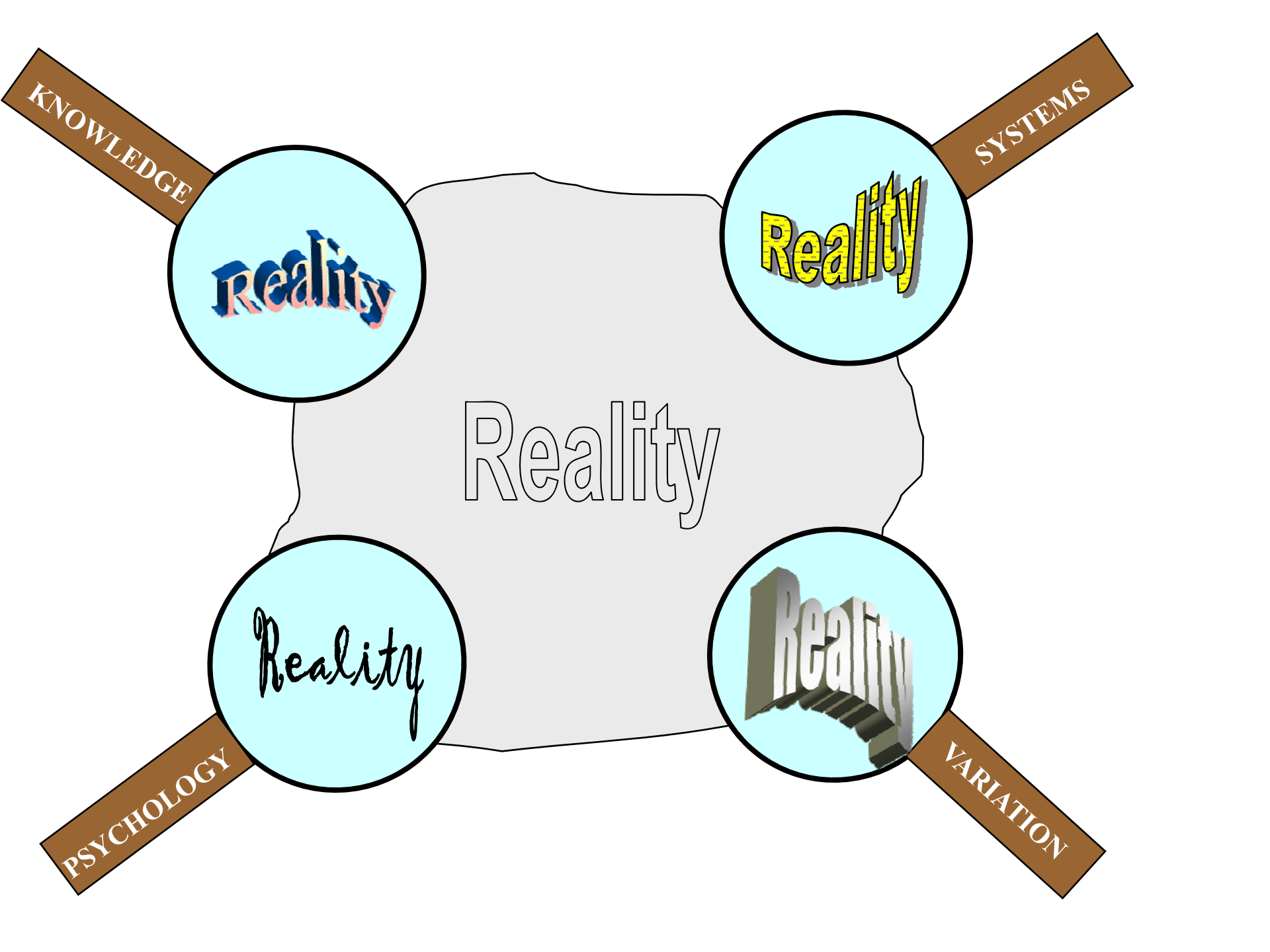
A Leader must view the world through the lenses of 20th century science:

- Theory of Knowledge
- Systems Thinking
- Variation
- Psychology

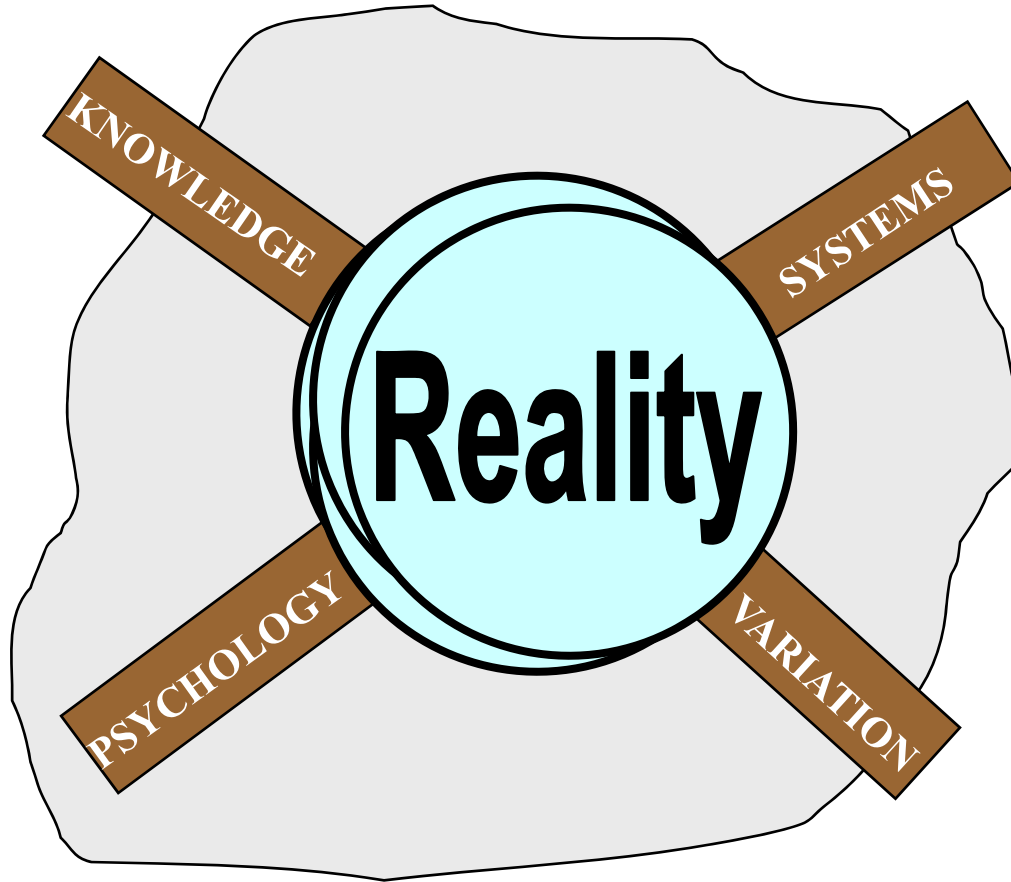
The System of Profound Knowledge

The 4 Lenses of Scientific Management

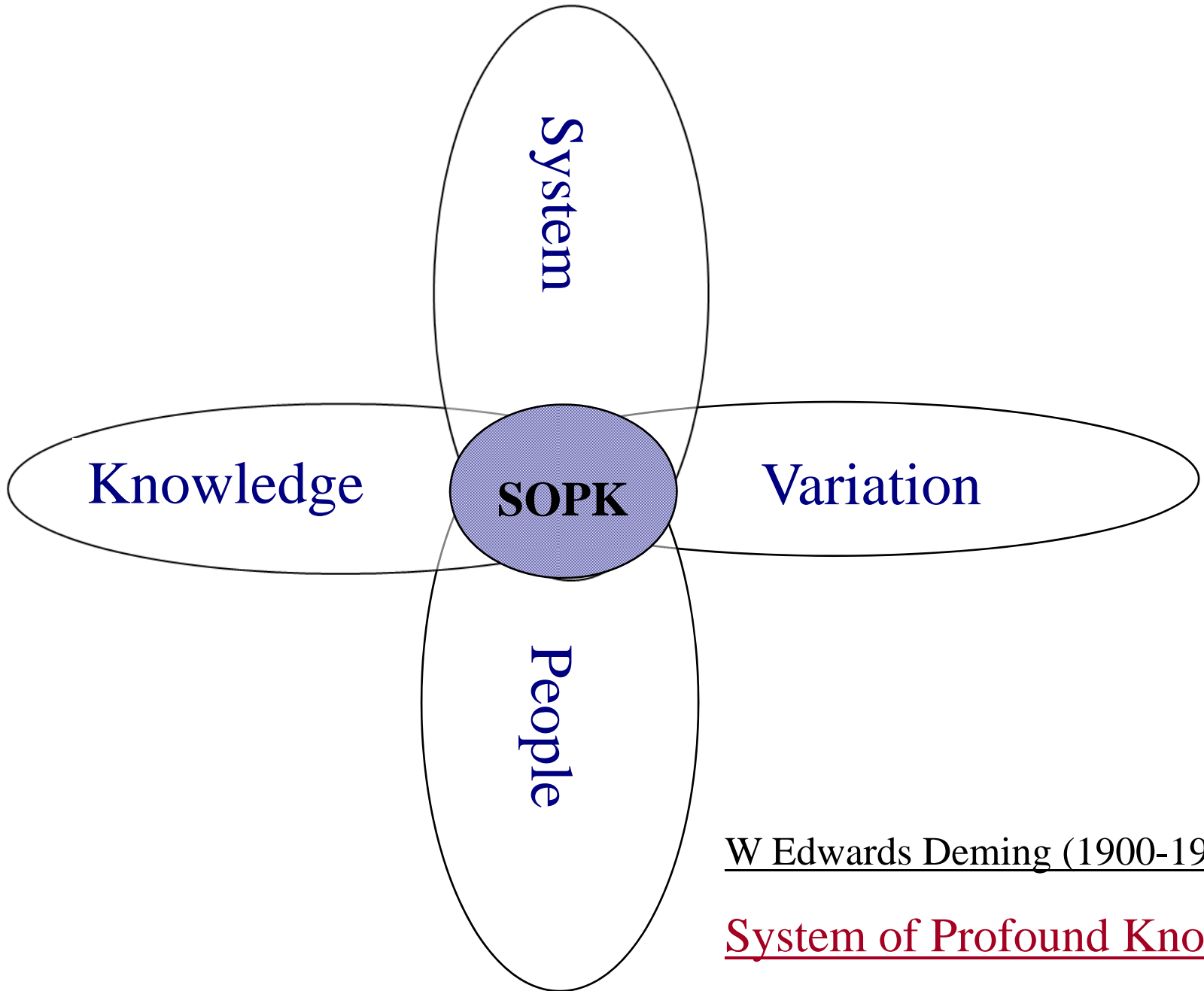




Perception



The Secret - we need to align all four lenses



W Edwards Deming (1900-1993)

System of Profound Knowledge

Knowledge and Theory

There are:

- theories governing **perception** (a priori)
- theories governing **improvement** (contingent)

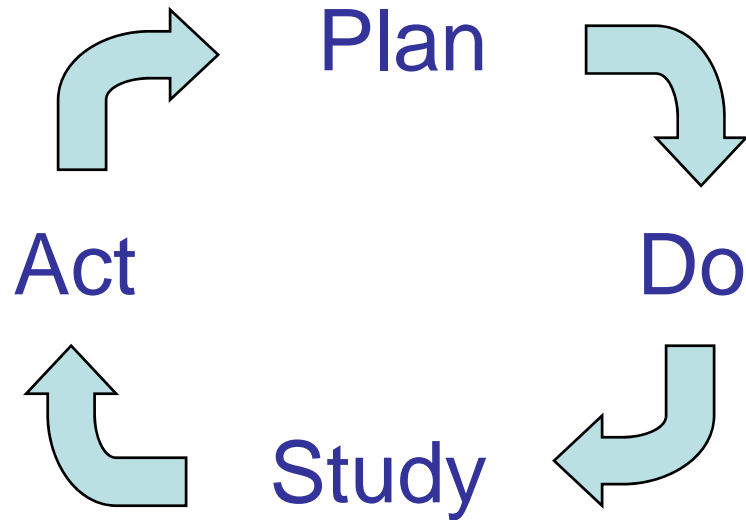
Theories as basis for Improvement:

GIVEN our present situation

IF we do this THEN that will occur

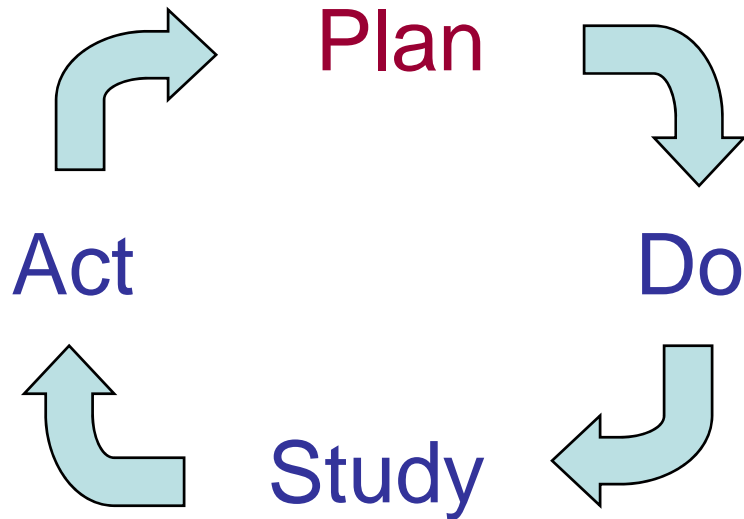
Knowledge and Learning

Improvement Strategy :



Knowledge and Learning

Improvement Strategy :

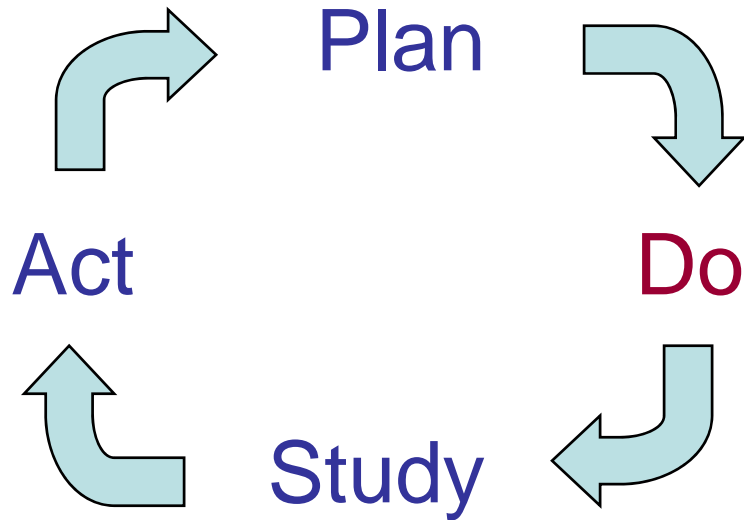


Plan:

1. From theory propose an improvement plan with predicted outcomes
2. Devise appropriate actions
3. Predict outcomes
4. Devise measurements

Knowledge and Learning

Improvement Strategy :

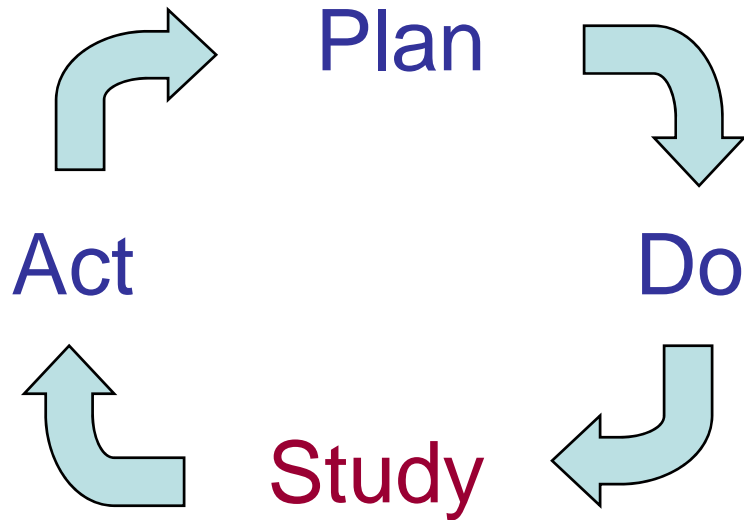


Do:

1. Implement improvement, preferably on a small scale.
2. Take measurements

Knowledge and Learning

Improvement Strategy :

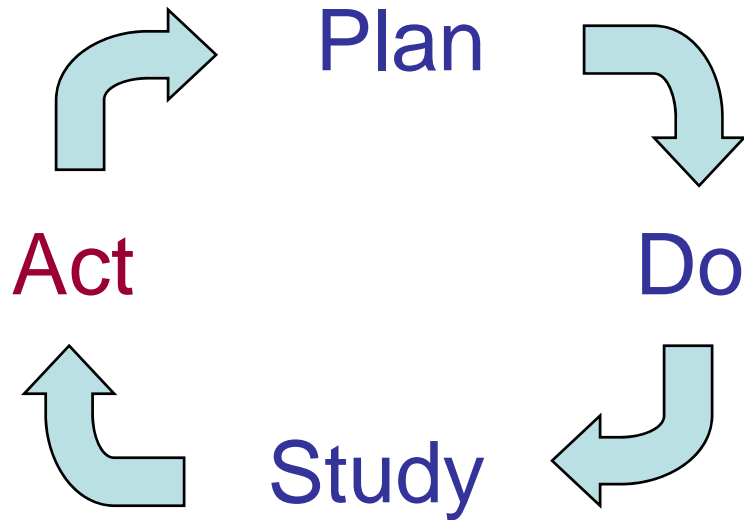


Study:

1. Assess outcomes vis-à-vis prediction.
2. Assess meaning of data

Knowledge and Learning

Improvement Strategy :



Act:

1. Decide whether to adopt the improvement system-wide.
2. Decide whether to modify the theory and go round the loop again.

Summary

Managers need to:

- acknowledge we are dealing with a new class of divergent problems
- we need new theories
- act on knowledge, based on acknowledged theories
- continually learn
- recognise theory underpins learning
- have scientific approach to learning
- understand:

'there is no substitute for knowledge'