agile ethos
Agile Training & Coaching

Facilitating Creativity for Breakthrough Problem Solving

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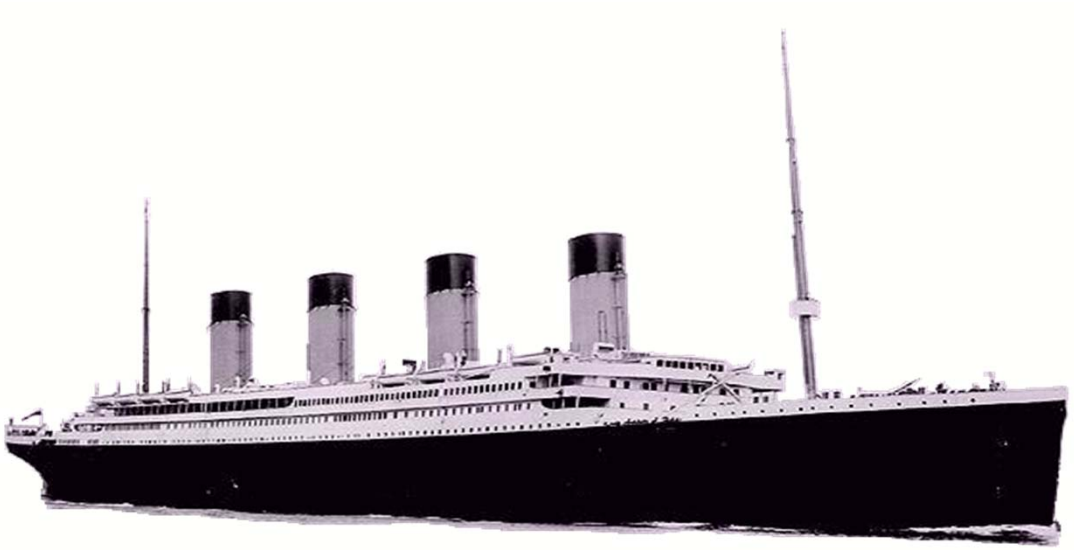
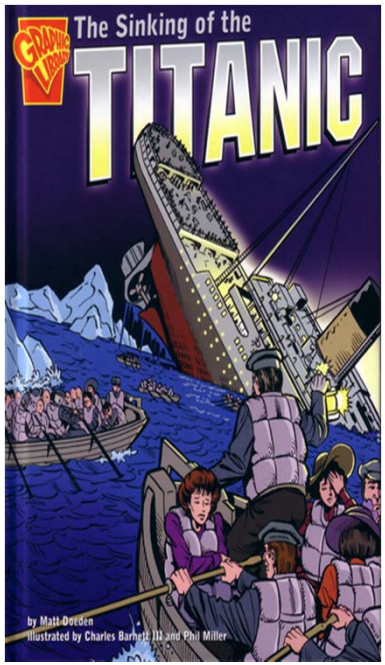
Agenda

1. Exercise – Brute force solutions
2. Exercise – Lateral thinking exercises
3. Remember the Trunk Monkey!
4. Explain the lateral thinking concept and roadmap
5. Debrief each exercise

Exercise: Titanic - How many can you save?





- Approx. 2500 people on board the ship
- Only lifeboats for approx. 1200
- Help is a little more than 4 hours away
- Titanic will sink in 4 hours
- Hypothermia is fatal and will set in after 4 minutes if water is touched by any body part

Random Input Technique

- Select a random word
- List one attribute of that word
- See if there is any value in that attribute to help solve the problem
- Repeat this with other attributes of that word

- Some random words you may use are:

Egg	Cup	Hammer	Bell
Book	Cardboard	Cat	Shop
Water	Wheel	Cactus	Letter
Banana	Pebble	Prison	Rain
Picture	Building	Knife	Gun

Example: Cake

- Problem: Get participants to internalize a monotonous presentation
- Random word: cake
- Cakes have a sweet topping → Start with something fun to get them started
- Cakes have many layers → Compress the tiresome subject matter into short bursts with more fun (sweeter) layers in-between. These could be activities, videos, etc.
- …

Analogies

- State the problem
- Choose an analogy
- Develop the analogy
- Relate the analogy to the problem along the way
- State the different ways the analogy is related to the problem
- List the analogy step by step
- List actions, attributes and resources

Example: Rumors and Snowballs

Analogy: Snowball rolling down a hill	Situation: Spread of rumors
Snowballs get bigger the further down they roll	The more a rumor spreads, the stronger it gets
Snowballs pick up more snow the bigger they get	The rumor picks up more “listeners” as it gets passed around
One must get out of the way of a snowball	Can we “get out of the way” of a rumor?

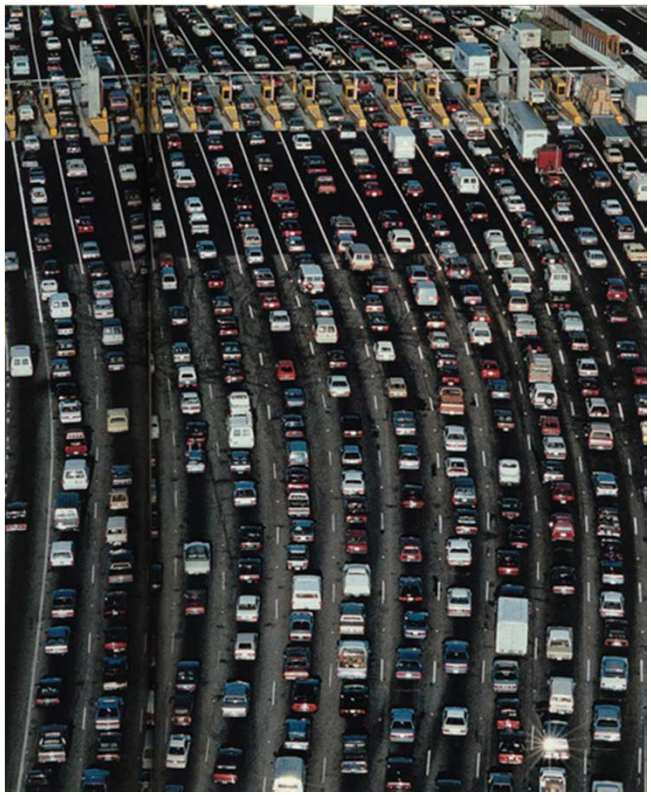
From: "Lateral Thinking," by Edward de Bono, ISBN 0-14-013779-3

Anti-Solution

1. Define the improvement goal
2. Define the opposite of that goal (the anti-goal)
3. Brainstorm how to accomplish the anti-goal
4. Define each anti-goal idea in detail
5. Highlight actions, attributes and resources in detail

Example: Traffic Congestion

- To solve traffic congestion, think about what would increase congestion

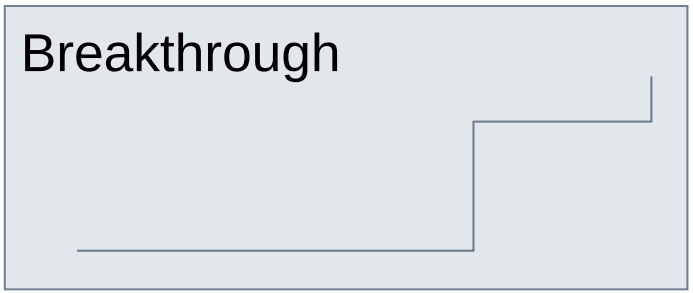


Anti-Solution

6. Think about how to use the same resources and actions to reach the original goal

Incremental versus Breakthrough Thinking

- Continuous
- Maintain equilibrium
- Safer
- Bottom's up
- Improve current process
- More common
- Methodical approach to improvement
- Affect organizational part
- Through normal structure and management processes
- Improve technology



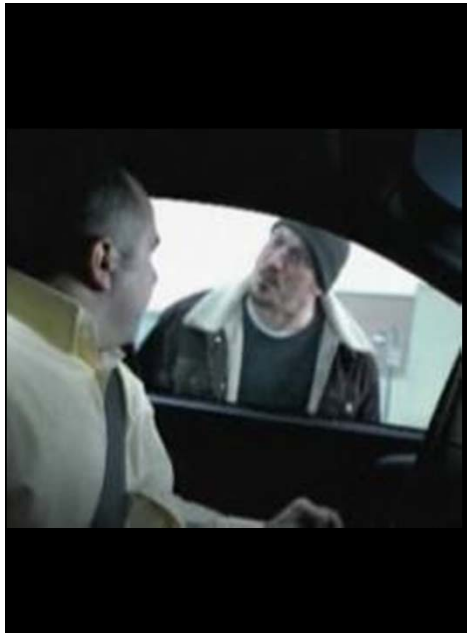
- Discontinuous
- Reach new equilibrium
- Riskier
- Top's down
- Blow up current process
- Less common
- Erratic approach to improvement
- Transform entire organization
- Create new structure and management processes
- New technology

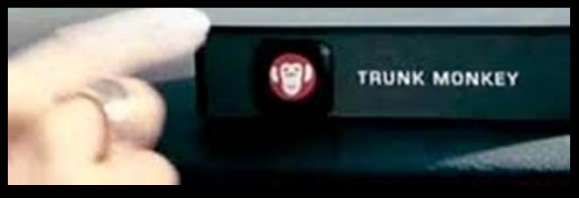
Creative Thinking

1. Generate
   - Incremental
     - Brainstorming
     - Brainwritting
     - Benchmarking: Internal
   - Breakthrough
     - TRIZ
     - Benchmarking: External
     - Channeling
     - Anti-Solution
     - Random Input
     - Metaphors
     - Analogies
     - Many others

- While a potential solution may be obvious it still may not be best
- May need to shift thinking from conventional methods to creative thinking
- Creative thinking is a learned skill
  - Not genetically predetermined
  - Often wrongly equated with artistry
- Can learn to shift perspective and generate new ideas and potential solutions

Two words: TRUNK MONKEY!

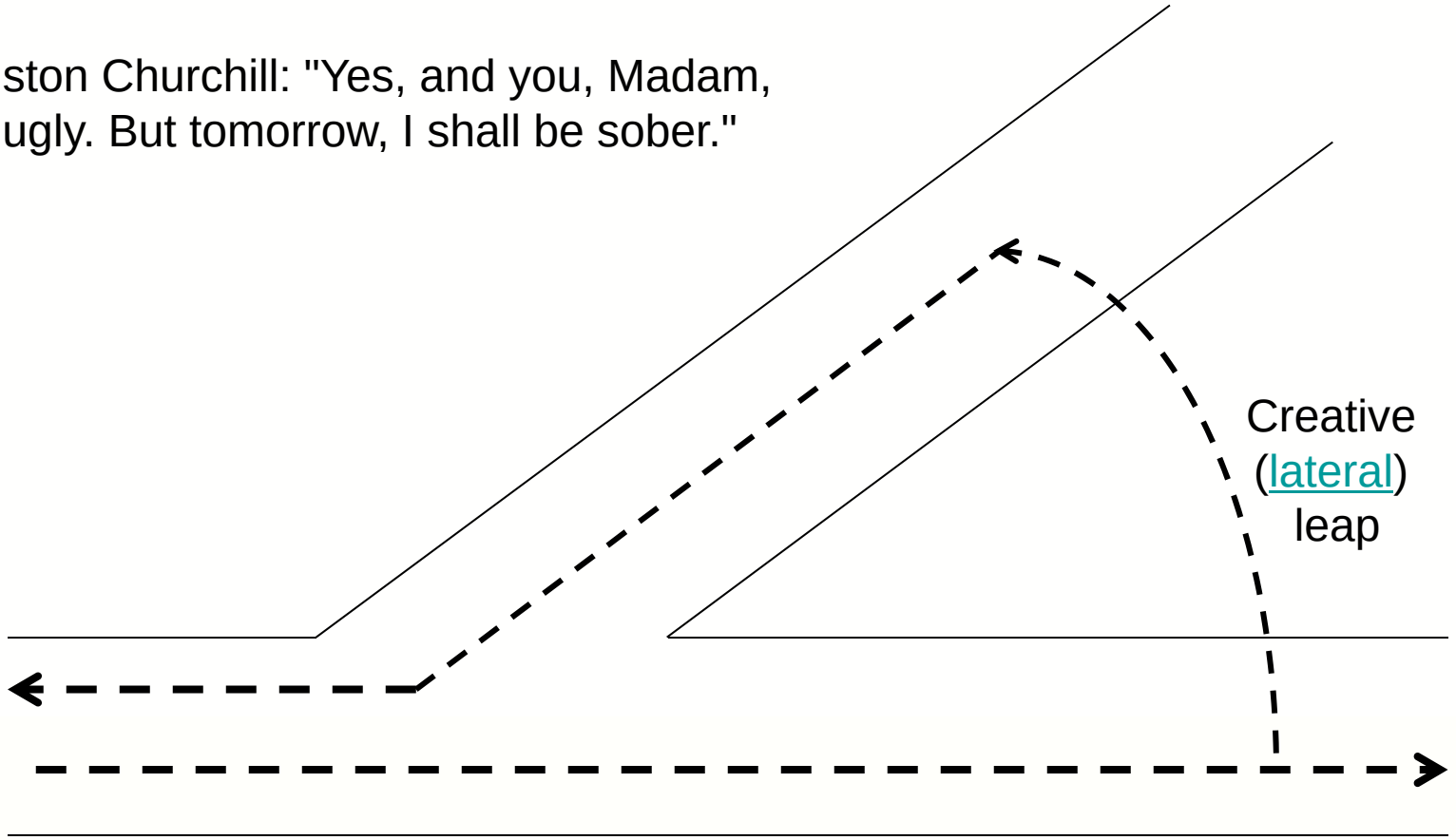


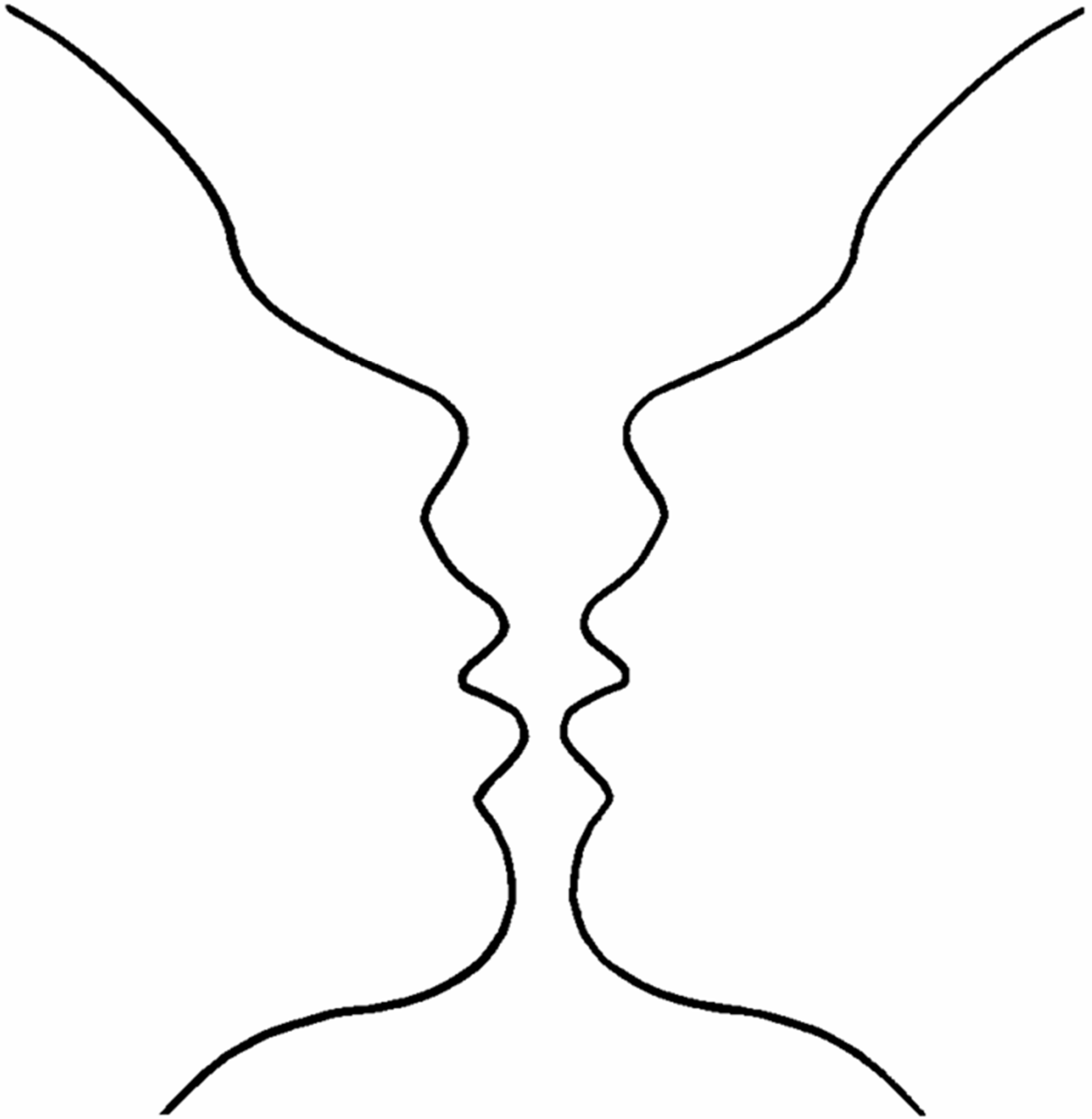


Lateral Thinking

Lady Astor: "Mr. Churchill, you're drunk!"

Winston Churchill: "Yes, and you, Madam, are ugly. But tomorrow, I shall be sober."



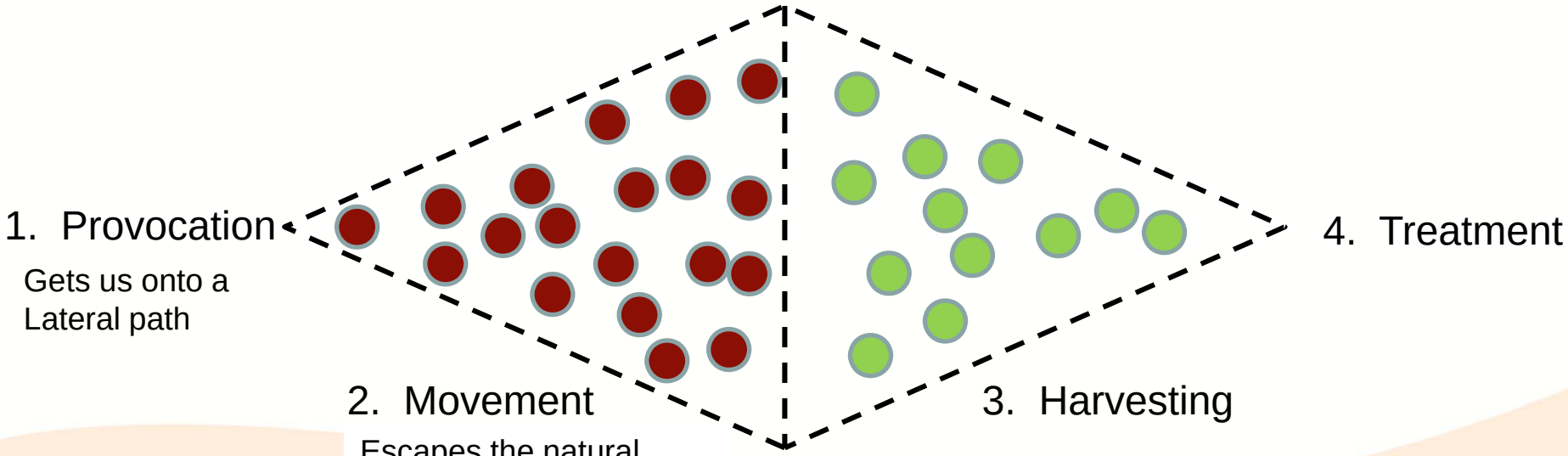


Lateral Thinking Roadmap

“Traditional thinking is all about "what is"
Future thinking will also need to be about what can be.”

"You cannot dig a hole in a different place by digging the same hole deeper"

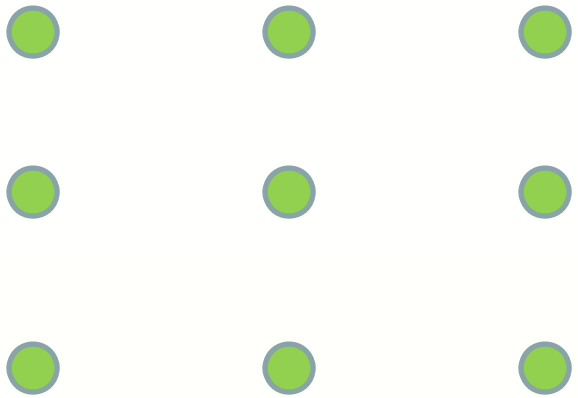
- Edward de Bono



1. Challenge Assumptions

Exercise:

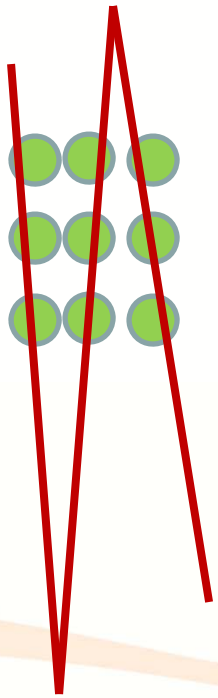
- Connect all 9 points
- You have 3 straight lines
- Cannot lift pen off the page



Challenge Assumptions

- Assumptions:
  - Cannot go outside of the square
  - Dots can't move

- Why can't you go outside the square?



Challenge Assumptions

- Assumptions:
  - Cannot go outside of the square
  - Dots can't move

- Why can't the dots move?

Challenge Assumptions

- List every assumption
- Draw a picture to help
- Ask why that is an assumption
- Ask what would happen if the assumption wasn't there or reversed
- Ask how to accomplish that scenario

Challenge Assumptions

Examples:

1. Hard drives spin. They break when they can't spin. What if they didn't spin?

2. Build times are limited to the H/W they run on. What if these limits didn't exist?

Challenge Assumptions

- A woman had two sons who were born on the same hour of the same day of the same year. But they were not twins. How could this be so?

- A man is wearing black. Black shoes, socks, trousers, coat, gloves, ski mask and black face paint. He is walking down a back street with all the street lamps off. A black car is coming towards him with its light off but somehow manages to stop in time. How did the driver see the man?

- A murderer is condemned to death. He has to choose between three rooms. The first is full of raging fires, the second is full of assassins with loaded guns, and the third is full of lions that haven't eaten in 3 years. Which room is safest for him?

Explaining Random Input

- Used to stimulate new ideas
- Pick a word, picture or even a sound
- Best if there is NO connection to the problem
- Best if there is reason behind the choice of the word
- Look at attributes of that word/picture/sound
- See how those can translate into the problem

Explaining Random Input: Use Words/Pictures

- Problem: We have a distributed team
- Random input: Tree

Explaining Random Input: Use Quotes

"When defeat comes, accept it as a signal that your plans are not sound, rebuild those plans, and set sail once more toward your coveted goal."

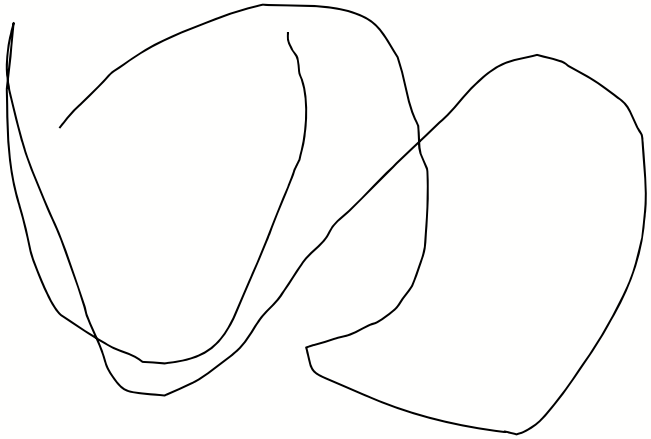
Napoleon Hill

[*referring to Deb's milk*] "I see you're drinking 1%. Is that 'cause you think you're fat? 'Cause you're not. You could be drinking whole if you wanted to."

Napoleon Dynamite

Explaining Analogies

Match the fictitious words “fooprose” and “pyloo” to the figures below:



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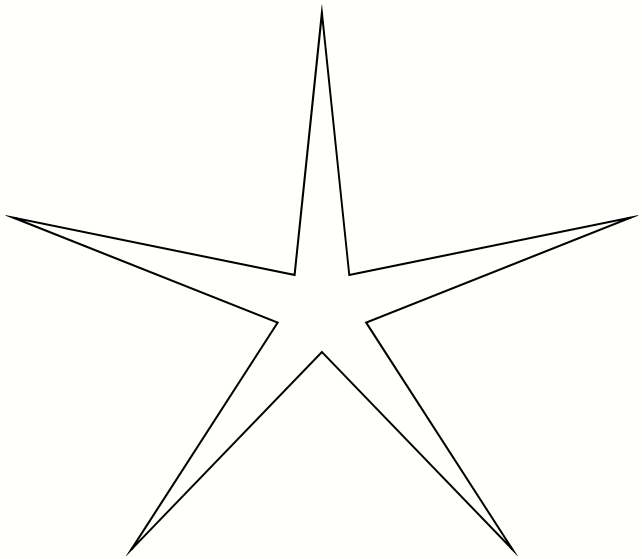

B

Explaining Analogies

What do you see?

Humans WILL make a connection

The mind WILL search for a meaning

Explaining Analogies

- Can be real or fictitious
- Can be scenario or situation
- Must be familiar
- There must be a set of actions or circumstances that can be developed
- Baking a cake is simple but there are actions that need to be developed
- Can be expressed as objects or processes (or both)

Explaining Analogies

- Analogies provide movement
- Each step is related back to the original problem

Explaining the Anti-Solution

- More fun to destroy than create
- Most people good at being destructive
- Tend to be very detailed
- May be able to use the same procedures, people, materials, money, etc. to create
- Example: How can we best support Scrum teams?

Main Points

- Traditional thinking is all about "what is“. Future thinking will also need to be about what can be
- Lateral thinking requires you go off your current thinking track and onto a side-track
- The lateral thinking roadmap:

  Provocation → Movement → Harvesting → Treatment
- Reverse or remove EVERY assumption
- Use random input, analogies and anti-solution to help facilitate teams through the roadmap