



Pattern Recognition

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Look at the image below – and what do you see? Perhaps it's an old woman – or perhaps it's a young girl.



Look again and relax your eyes and you will find that you can see both and switch between the images. Here's another example – is this a vase – or a face in profile?



These are common examples of visual illusions but they remind us of the way our brains work. We process a great deal of visual information and try and make sense of it – and when we see a pattern we think we recognize then our brains 'lock on' to that and reinforce the image as that thing. The illusions work because the same pattern can be interpreted in different ways.

Now look at this pattern – and at first it is difficult to make sense of.



There isn't as much information in the picture so we are forced to make guesses – to impose a pattern on the picture to try and see something there. Once again our brains are using the idea of finding patterns as a strategy.

This phenomenon of pattern recognition applies not just to visual images but also to any sensory data which we are trying to make sense of. We have evolved to be able to assemble such data into something with meaning and to do so fast – and that's been an important survival skill. By noticing a pattern in the bushes to our right on the path ahead we have learned that it could be a snake and we had better avoid it!

Pattern recognition is a key skill – but it can have its downside because the brain not only looks for patterns but also then reinforces the one we think we see. It becomes difficult to see alternative interpretations, especially of fuzzy information. So in situations where we need flexibility and creativity, when we are trying to find something new, it can be a disadvantage. We see what our brains want us to see, rather than what else might be there.

Sometimes the problem is at a group level where we develop a collective 'mindset' – a way of looking at a problem which represents familiar patterns. 'The way we do things round here' is a strength because it helps build in patterns of behaviour to respond to situations but a weakness because sometimes the situation appears to be a familiar pattern but actually is different and needs a different response. Studies of 'sense making' in organizations highlight the difficulties of 'mindset' and the challenge organizations face in terms of dealing with complex environments where we need the skill to spot new and different patterns and to develop alternative responses.

In order to get around this we can use a number of tools and techniques to help us. For example, in the visual image challenge simply relaxing can help us see multiple alternative images in the same information. Similarly in an ideation session (like a brainstorming workshop) a relaxed atmosphere is

important. If we relax the 'rules', which we bring to the situation new solutions become possible – for example, try and solve the nine dots puzzle here.

We can use tools to help us find multiple solutions – for example by reformulating the problem using 'how to' statements.

We can use metaphor and analogy to deliberately change the frame of reference, the way we are viewing the problem.

A closely-linked challenge is something called 'functional fixation' – where we limit our search for solutions to problems. Once again using tools can help us open up new search space and generate novel insights and perspectives. See here for more on this.