

FOCUS

Game, mindset and match

In the second of an occasional series, **Allan Snyder** says we are all innately prejudiced

I want to confront a disturbing reality. One that no-one ever wishes to admit. We are all by nature prejudiced. We can only see this world through our mindsets - our preconceptions derived from past experiences and our prior knowledge. Put simply, it is extremely difficult to experience the world anew.

And, in my opinion, there is no escaping this condition. Our brains have craftily evolved this particular strategy for good reason. Mindsets are a biological necessity if we are to manoeuvre rapidly in important and familiar situations.

How can we ever become more receptive to novelty when our minds are subject to these powerful constraints? I say ride with the tide. Take on all the more mindsets. Because the more mindsets we imbue, the more different snapshots we have of this world. The lesson is clear. After mastering one situation, move on to master another.

Have you ever wondered why you can see meaningful pictures in what are obviously randomly formed cloud formations? And, why two people who look at the very same cloud often see completely different objects? The portrait painter sees a face of dignity while the ultrasound sonographer sees a diseased gall bladder. Clearly, our interpretation of the world depends on our frame of reference.

This somewhat apocryphal observation about cloud gazing lays bare a master plan of the mind. There is no definitive interpretation of the raw sensory information that bombards our senses. It would take an eternity for our brains to work through all the possibilities. But, we have no interest in all possibilities, only the most likely ones. So, we have evolved a rather cunning strategy for rapid decision making. We make assumptions about what is most likely. Our brains do this by constructing mindsets or mental images about what is familiar and important. These mindsets then act as templates through which we view this world.

Mindsets facilitate rapid decision-making. They are the building blocks for acquiring expertise. Skilled medical diagnosis is a classic case. A doctor automatically matches a constellation of symptoms to the most likely disease out of a finite number of known diseases.

The act of recognition is another example where mindsets facilitate expertise. We often have difficulty recalling faces. But it is effortless to recognize them, even when they

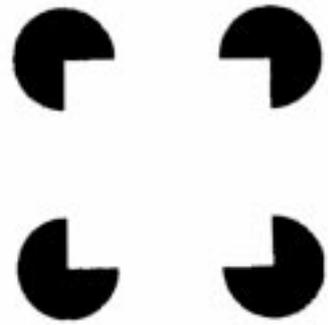
are radically altered. When someone familiar to you shaves his heavy beard, you are often uncertain of what is different about him even though he has dramatically changed his appearance. In other words we are conscious of names and labels of things and not all the detailed reasons assembled for the label in the first instance. Mindsets allow for these short cuts in decision making.

But as a consequence of mindsets, we are vulnerable to prejudice in the form of illusions and assumptions. Put simply, there is a cost for adopt-



Left: Rabbit facing to the right, duck to the left. Familiarity with rabbits and ducks is required to see both animals

Right: Our mind assumes that the most likely interpretation of this image is that of an object in front of other objects. So, we perceive a square



ing any strategy that accelerates our decision making process. Nothing can be seen within a neutral frame of reference.

Anyone who doubts this fact is reminded of the myriad of illusions, jokes and puzzles which capitalize on our prejudice from prior knowledge. For example, consider these two sentences:

The president is waiting for the boy's father before awarding the boy with a gold medal. Coincidentally, the boy is the president's son.

Now, this can only appear puzzling if we have a mindset that all presidents must be male. Few people are confused if the president is replaced by a nurse. Yet, everyone knows that there are female presidents and male nurses. But even so, our minds still jump to the most familiar possibility, instead of logically sifting through alternatives.

Many visual illusions operate in precisely the same way. Take the illustration on this page as an example. You see a square, but in reality no square exists. Why? Our mind has assumed that the most likely interpretation of this image is a square in front of four circular objects. So, we mentally extrapolate a fictitious square boundary to match our expectation. This is but one of many assumptions we unconsciously use when interpreting our visual world. For example, all of us unconsciously assume that light comes from above. Bizarre illusions occur when objects are illuminated from below such as concave surfaces appearing convex.

Powerful images distort our view about what is most likely. For example, airline crashes feature prominently in the news. They are great stuff for crystallising our mindsets about the horrors of flying. So, fear of flying prevails despite solid statistics that airlines are far safer than cars. Statistics are even ridiculed, as an old joke reveals:

If you are afraid of being on an aeroplane with a bomb, then you should always carry a bomb on the plane with you. After all, what is the probability of there being two bombs on the same aeroplane?

These examples should convince everyone that we experience this world through our mindsets, assumptions which are derived from our past experiences. This is the state of ordinary minds.

Only a pathological mind sees the world

unfiltered through prior knowledge. But this comes at the enormous price of being unable to cope with decision making. I have discussed such individuals in this column previously (12 November, page 15). For example, people with infantile autism observe the world without interpretation or expectation. Everything for them must be reevaluated anew. Basically, they lack mindsets. So they compensate for this by repetitive and stereotyped behaviour.

Clearly, mindsets are a masterful strategy which allows us to operate automatically in familiar situations. But, they come at the unavoidable cost of prejudice. We only see a filtered version of the world. What then is my suggestion for seeing more and thus becoming more open-minded and creative? Obviously, it is to take on more mindsets. Because the more mindsets we imbue, the more different views we have of the world. So, after mastering one situation, it is best to go on and master another.

The rabbit-duck drawing on this page serves as an illustrative example. If we only know about ducks, then we only see a duck when looking at this drawing. And, if we only know about rabbits, then we only see a rabbit. But, familiarity with both rabbits and ducks gives us the luxury of having two interpretations.

My suggestion that creativity is facilitated by having an enormous repertoire of mindsets complements the opinion of the brilliant historian of ideas, Jacob Bronowski. "We become creative by finding a likeness between things which were not alike before." "The creative mind is a mind that looks for unexpected likenesses." In other words, creativity flourishes by juggling our mindsets. The more we can juggle, the better. So our mindsets make us prejudiced, but in return they bestow immense creative potential.

Professor Allan Snyder is director of the Centre for the Mind, a joint venture of the Australian National University and the University of Sydney and was awarded the International Australia Prize in 1997. The above issues will be explored at *Geniuses, Prodigies & Savants*: on December 6 and 7, W.P. Young Room, Veterinary Science Conference Centre, the University of Sydney www.centreforthemind.com