THE CREATIVE AND CHANGEABLE MIND OF THE LEADER

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Margaret Thatcher once famously boasted that "this lady is not for turning". Plenty of her fellow warrior leaders are still roaming the corridors of modern companies and organisations but they are now competing with a new species – the innovators. Increasingly, organisations are looking for leaders who have strong and flexible minds and who are creative and changeable.

If you are feeling hungry right now you can use your mobile phone to locate the closest pizza shop and to track the delivery person as they convey your Capricciosa with Extra Anchovies to your home. This mundane, and possibly underwhelming behaviour, is made possible by a series of innovations including GPS. The development of GPS has had many more profound applications than pizza delivery, but where did the idea come from? Like many innovations it has a long gestation. Some folks track it back to the first Russian Sputnik which circled the globe emitting a strange pinging noise. A group of scientists in America as a hobby succeeded in tracking the orbit of the Sputnik by tracking variations in the sound of the pings. Later, the American military approached the same scientists with a problem and a question. The problem was how to keep track of their nuclear submarines as they roamed the depths of the planet's oceans. The question was whether you could reverse the original idea and have a satellite in orbit tracking special signals emitted by the submarines? And so the idea of Global Positioning Satellites was born.

This story is recounted by Stephen Johnson, author of the book "Where Good Ideas Come From", to illustrate some aspects of creative thinking and innovative development. Johnson argues that "an idea is a network" and not a single event or an epiphany as is often portrayed. Darwin didn't stumble on the idea of natural selection and evolution in one stroke of genius. His diaries reveal that all of his key ideas were percolating through his thinking for months and months and long before Darwin himself dates the birth of his theory.

Johnson gives another example of this innovative process. Medical aid groups would donate very expensive baby incubators to developing countries, but as soon as they broke down they would be discarded by the locals because there was a scarcity of the skills to fix them. Initially frustrated by this, the donors asked themselves a different question. What skills are in plentiful supply in these regions? They noticed that amazing skills at fixing very old cars and keeping them running were common in these developing countries. So they built new incubators made entirely from used car parts – things cobbled together such as headlights as a source of warmth. Any back-street mechanic could fix these incubators and keep them running.

Stephen Johnson and other experts argue that there are some important factors which contribute to creative thinking and innovation and these include: "new connections", "adjacency" and "collaboration". Adjacent thinking can involve parallel ideas or skills or technologies or sometimes even geography. Some writers describe creativity hubs which develop in some cities where universities, research institutions, venture capitalists and like are co-located and well educated professionals rub shoulders with each other in their workplaces, cafes and gyms. The thing that I like about this notion of "adjacency" is that it gives us a sense of where to start looking for innovation, instead of waiting for a brilliant idea to present itself to us fully formed and out of thin air.

Collaboration can often be the practical means of promoting the other creativity factors, as well as providing multiple perspectives on a challenge which can lead to new collective insight. Often it is our own assumptions which are blinding us to new insights and avenues for action, and others can help us to see our own blinkers (for more on the role of collaboration in creativity see my article "Creativity is Making More from Milk"). In a recent experiment, a group of neuroscientists assembled a very large shard of glass loosely supported at the top by ropes and with a very pointy end resting and pressing heavily into a ten dollar note on the ground. As the public wandered past they were asked how they would remove the ten dollar note without breaking the glass. Few practical suggestions to solve the problem came forth. What would you do? The neuroscientists finally suggested that one solution would be to burn the ten dollar note. Check your own reaction as I mentioned that solution

– did some of you immediately think that this would be cheating? Why did the public not see the burn solution? Perhaps it comes down to how they were thinking about the notion of "remove", and maybe they were also fixating disproportionately on the supposed value of the ten dollar note as opposed to protecting the shard of glass. Perhaps their own narrow thinking and assumptions blinded them to other possibilities? Mark Twain considered that all education begins with unlearning.

Divergent thinking is another element of the creative process. Neuroscientists often use the "brick experiment" to illustrate how we can promote or dampen divergent thinking. I use my own version of the brick experiment on leadership courses. I ask for four volunteers and I send two of them out of the room for a few minutes to have a casual conversation with each other. I produce a house brick and I ask one of the remaining volunteers to tell me all the possible uses of the brick while the other volunteer counts their suggestions over the course of one minute. I then invite the other volunteers back into the room, I pour a bag of Leggo pieces on the floor, and ask one of the participants to build a house for me. After some time I stop them, I re-introduce the real brick and ask the Leggo builder to tell me in the space of one minute as many possible uses for the brick. Invariably, the Leggo builder has fewer suggestions than the first volunteer for the use of the brick, the suggestions are less divergent and more narrowly aligned with house building, and often they are slower to start making suggestions or run out of suggestions before the time limit expires. What is happening here? The Leggo builder was using a particular part of the brain, one which Managers use a lot. It is a part of the brain which is helpful in providing task focus and logical problem-solving. It is not strong on divergent thinking and creativity.

It can be quite difficult to switch out of task focused thinking to more divergent or creative thinking. A colleague and I did some work recently with a group of senior judges and I was really impressed by their intellectual capacity and their technical expertise in the law which they applied with maximum authority in their courtrooms. But when we addressed a common leadership challenge which they were facing in organising their fellow "independent judicial officers", I was surprised that they ended the consultation by claiming there was no solution to their dilemma which was exactly where they had started

the inquiry, and there was an observable paucity of creativity and generative dialogue in between. The judges struggled to switch from brilliant analysis to humbling and fumbling creativity.

In the brick experiment, it is not that one participant is innately more creative than the other participant. We are all capable of creative thinking, although some individuals may have natural advantages. I believe that the big issue for managers and leaders is to find ways to grant themselves and others permission or licence to be creative. What the neuroscientific studies of the brain show using Magnetic Resonance Imaging is that "aha" moments, insight, periods of creativity are usually accompanied by a much greater level of neural connectivity and firing across most of the regions of the brain. The new connections which are externally evidenced in acts of creativity are being produced by new connections occurring in the brain. Different regions of the brain appear to play different executive roles. MRI scans also illustrate that the region of the brain most identified as the driver of creative thinking can appear suppressed or overridden when the region of the brain associated with task focus, logical and rational thinking, and judging is very active. I have written previously in my article "Driving Miss Crazy" about the role of "suspension of judgement" in the creativity process. To caricature slightly, it could be said that the sensible brain likes to protect us from some of the craziness of the creative brain. But there may be times when it is too good at its job!

How can leaders provide more permission for themselves and others to be creative and innovative? Sometimes it can be very simple – Beethoven liked to take walks and let the symphonies form in his mind during his strolls. Showers work for me – although no harmonies have emerged as yet! Edward De Bono has heaps of more professional suggestions to get you started including his six coloured hats. On our courses we use our leadership insight dialogue method and observe how many groups of senior managers become far more generative and even artistic as they engage in reflective dialogue and generous listening with each other, and as they park their egos and "judgementalism" and become more playful (see my previous article "The Seven Elements of Leadership Insight Dialogue"). At other times it is a higher level of commitment, without too much attachment, which can lead to a creative breakthrough. If you are faced with a very high wall which you do not know

how to scale, sometimes it helps to throw your wallet over the wall and see how that transforms your thinking. As Plato noted, "necessity is the mother of invention". I have written before about some of the tools developed by my colleague Rob Burke and others to foster creativity in Futures Thinking, and about the creative insights available if we switch how we relate to the future from "future as goal" to "future as context" (see my article "Strategic Success for Leaders").

Personally, I find that meditation is an excellent way to deal with all that "excessive thinking" which interferes with creativity. I use a particular form of "insight meditation" or "creativity meditation" which I learnt from Ian Gawler. lan recommends that if you have a particular challenge or problem which you are trying to solve, do all your research first and collect the relevant data. Then start meditating with a pen and paper handy. Once you have relaxed and used your breath to become mindful and peaceful, pose the Question to yourself which you are seeking to solve. Return to your meditation and simply notice any new insights if they bubble up. Initially you may notice the same old solutions which you have been tossing around lately, and this is probably a sign that you have slipped back into thinking mode. As new insights occur jot them down – keep returning to the meditation and at regular intervals drop the Question into the process. Don't force anything. I regularly find that I derive new, creative insights and solutions to old challenges by using this method and it often involves the bringing together in my mind of two adjacent elements which I have not previously associated with each other.

Creativity also may be linked to Changeability in the mind and brain of the leader. Perhaps a 21st Century question for leaders should be: "How well are you using the plasticity of your brain?" How well are leaders changing the levels of their awareness, their thinking patterns, their assumptions, their habits, and the very structure of their own brain? Neuroscience is establishing the extraordinary ability of the brain to rewire itself and form new neural connections. Human beings can change the very structure of their own brains and those brains have immense power to change our physical world. If you doubt this ability in yourself or your people I suggest you read the truly amazing case studies presented in "The Brain That Changes Itself" by Norman Doidge, and the medical case studies presented in his more recent book "The

Brain That Heals Itself". To realize modern pathways to innovation in business and organisations, leaders may need to train themselves and their people in developing new neural connections and pathways in their own brains. This does not require surgery or a chip implant, but it will involve investing time and effort in learning and unlearning. The new brainy organisation which relies on this mental strength may just be more creative and changeable.