

# Leadership

## Inside the Wise Leader's Brain

The Neuroscience of  
Leadership

By  
Dr. Peter Verhezen  
With the  
Amrop Editorial  
Board

**Part 6**  
The Ethical Brain



**Amrop**

Leaders For What's Next

# The Ethical Brain

Mentalizing helps us, as executives, to develop a more nuanced, sophisticated understanding of others.



Executives must increasingly deal with social, ethical and environmental dilemmas, uncertainties, opposing ideas and paradoxes. Understanding our brain mechanisms gives us insight into how.

Ethicists deal with '*should be's*', clues on how to live a good (executive) life. Scientists describe '*what is and what can be expected*'.

Let's assume that nature has provided us with a natural ability to think in terms of moral dilemmas, paradoxes and probabilities. If so, neuroscience may point us to a form of *ethical thinking* that is built into our brains and differs from, say, more *egocentric* thinking. The way a self-aware thinker's brain functions is slightly different from the brain of someone who is not.

## The Theory Of Mind

In ethics the notion of *intention* plays an important role. Is this also hard-wired in our brains? The '*theory of mind*' suggests that it is. This theory describes conscious processes that enable us to understand the desires, intentions and beliefs of others. In fact, intention may be one of the defining characteristics of human consciousness. Intention is context-dependent. The human brain allows us to analyze, reason, form theories and flex to a wide spectrum of contexts.

Developing our brain's capacity to broaden our perspective can be labeled as '*mentalizing*'. Instead of viewing what is going on around us through an individualistic lens, we take a more dispassionate, 'outside-in' view. Mentalizing helps us, as executives, to develop a more nuanced, sophisticated understanding of others. It enables us to see a socio-ethical context that can help us manage better. Executives who are not just *mentalizing*, but also *mindful* and *self-aware*, can more easily articulate what other people are thinking, and why this matters. These leaders give the impression of genuinely caring about what other people think.

As we'll see, mentalizing and mindfulness allow executives to become more responsible, training the ethical brain to make wiser decisions in the process.

Cognitive scientists no longer oppose emotion and rational thinking. Each emotion has a reason to exist. It contributes to the survival of the species. Our incredible appetite for the unknown is an emotional desire.



## There's a logic to emotions

Neuroscientifically speaking, *emotional intelligence* is about getting the brain to construct the emotions that best fit a specific situation. These emotions help us to make moral and other (survival) decisions. Emotions are actually a social reality<sup>6</sup>.

Organizations are social set-ups. And in order to create the trust that is so necessary for them to function, it's not enough to be cognitively smart. We need four forms of intelligence: emotional intelligence (EQ), intellectual intelligence (IQ), moral intelligence (MQ) and risk Intelligence (RQ). (See our article: From Tension to Transformation, how Wise Leaders Transcend Paradoxes and Ambiguity).

Cognitive scientists no longer oppose emotion and rational thinking. Each emotion has a reason to exist. It contributes to the survival of the species. Moreover, our incredible appetite for the unknown is an *emotional* desire. It is linked to a brain circuit fed by *dopamine* (a neurotransmitter which rewards us when we learn and understand something new). The motivation in the human brain to explore passes through the same neural networks or circuits as the ones that 'create' the desire for food, sex or money.

The emotion 'fear'<sup>7</sup> corresponds to anticipating a particular danger in a particular context. Traditional thinking suggested that these sentiments (initially subconsciously) alert several zones in the human brain. Enzymes and hormones then trigger further physical reactions which can be translated into more conscious decisions. However, the most recent research indicates that a *single* brain area or network contributes to *many* different mental states. And this makes most neurons multipurpose.

<sup>6</sup> Under crisis conditions we often lack the time and information to make considered choices. The management literature has recently produced support for intuition and tacit knowledge in decision-making, less so, for emotions. We propose that in crisis conditions, managerial decision-making should underscore the role of emotions in an intuitive decision process. These decisions carry a lot of ethical and financial weight, and their importance is magnified in a crisis.

<sup>7</sup> A threat stimulus, such as the sight of a predator, triggers a fear response in the amygdala, which activates areas involved in preparation for the motor functions involved in fight or flight. It triggers stress hormones and the sympathetic nervous system. The brain becomes hyperalert, the pupils and bronchi dilate and breathing accelerates. Heart rate and blood pressure rise. Blood flow and the stream of glucose to the skeletal muscles increase. Organs not vital to survival, such as the gastrointestinal system, slow down. The hippocampus is closely connected with the amygdala. The hippocampus and prefrontal cortex help the brain interpret the perceived threat. They are involved in a higher-level processing of context, which helps a person know whether the threat is real.

## So, subconscious emotions actually drive our rationality

Our emotions are not as subjective as people often think. Our *'cognitive emotions'* reflect a sense of phenomena in the world, captured via our senses. They are the engines of our moral appraisal, of action in the *'intuitive track'*, and our moral cognition. They are on-the-ground responses to our (mostly) non-conscious assessment of a situation. They play a crucial role in our reasoning, the thought processes that assess competing values and courses of action. This moral deliberation is a case of genuine ethical consideration of what we ought to do.

Recent neuroscientific understanding explains the mechanics of how we learn and decide. So should we give up any idea of personal moral responsibility? Given all these unconscious processes, how can we be held responsible for anything at all? Surely all events, including our moral choices, are driven by pre-existing causes beyond our control?

*Perhaps it's time to do some insider trading and use the profits to buy a Ferrari.*

Or perhaps not. Philosophers and scientists alike argue that free will can exist, even if the brain is as mechanical as clockwork. For the neuroscientist Michael Gazzaniga, our brains may be automatic, rule-governed, determined devices. But we remain personally responsible agents, free to make decisions.

<sup>8</sup> Barrett, 2017: You are born with some brain wiring as determined by your genes, but the environment can turn some genes on and off, allowing your brain to wire itself to your experiences.

Your brain is shaped by the realities of the world you are in, including the social world made by agreement among people. And if your brain operates by prediction and construction and rewires itself through experience, it is no overstatement to say that if you change your current experiences today, you can change who you become tomorrow. You can train yourself to become aware of these experiences and control them.



## Responsibility is a social choice

Responsibility may be a moral value that we demand of our fellow, rule-following human beings. It exists within the rules of a *society*. And this *social construct* does not pre-exist in our neuronal structures. Responsibility, however, would mean that we make deliberate choices that can change our concepts and therefore the model applied in our brain.

We also bear the responsibility for continuing conflicts rather than defusing them. No particular conflict is predetermined by evolution. Conflicts persist due to social circumstances that wire the brains of the participants. Someone has to take responsibility to change the circumstances and concepts<sup>8</sup>. That is what can be expected from a wise leader, one who usually takes full responsibility for his or her actions.

## A two-road problem

Let's try to decipher the individual responsibility in the brain of, say, a CEO. Neuroscientists have distinguished two key roads in the brain: the 'Low Road' and the 'High Road'.

The 'Low Road' (Kahneman's 'System 1') emphasizes the subjective valuation of what is valuable and relevant: "What is in for me?" "How much is it worth?" "How might we close the deal?" "What might others want?" Whilst these 'questions' are powerfully related to incentives, they are not purely selfish. The Low Road is also involved when you observe others being rewarded.

The "High Road" (System 2) focuses on others and a strategic longer term. It is activated by considerations of others: "What is she thinking?" "What will they do next?"



## Which road you take is a moral, deliberate choice.

It is not mechanically predetermined by the brain, even if imaging does reveal the different areas of the brain involved<sup>9</sup>.

Executives can train to focus their attention on:

1. Taking an easier tactical perspective that activates the brain's 'Reactive Self-referencing Center' (System 1)
2. Taking a more reflective strategic view, connecting to the 'Deliberative Self-Referencing Center' (System 2).

*You can find more explanation in the box to the right.*

All in all, it seems that we don't act completely randomly, We're somehow guided by moral values. An internal core — our self-consciousness — functions as a barometer of what is more right than wrong. Our appeal to it influences our final course of action. Let's recall that our brain is also adapted to operate with extreme efficiency. For this reason, in order to make sense and understand, the brain and its memory<sup>10</sup> distort incoming information to fit our current assumptions and beliefs, our mental, culturally-influenced models. As such, this useful device memory is also very "subjective".



In the next chapter, we'll consider the social brain.

<sup>9</sup>See Schwartz, Thompson & Kleiner, 2016.

### High road and low road, a complex system

**The high road (or moral road) is associated with two Centers:**

**A — the Executive Center.** This is associated with the lateral prefrontal cortex, which is goal- and planning-directed. Working memory, keeping information accessible so your conscious attention can work with it, lives here.

**B — the Deliberative Self-Referencing Center.** This is associated with the dorsal (upper) medial prefrontal cortex, which has to do with mentalizing. When you reflect on your most meaningful aspirations, and plan on bringing them to pass, you also generate activity in the Executive Center.

This is why the high road gives rise to cognitive flexibility: seeing a situation from multiple perspectives and acting according to their potential, subtle connections. It is also the home of self-regulation — the inhibition of habitual, impulsive behaviors. It is invoked by mindfulness and our 'wise advocate' (a kind of moral consciousness) that emphasizes long-term value.

**The low road (of lower moral instincts) is located below the Executive Center. It's associated with the ventral medial prefrontal cortex, as well as two further Centers:**

**A — the Habit Center.** This is associated with the basal ganglia, a reptilian-evolved brain function, which has to do with automatic responses

**B — the Reactive Self-Referencing Center.** This is associated with the ventral medial prefrontal cortex, and subjective evaluation.

This is why the lower moral road focuses on tactical and expedient problem-solving. It provides no real impetus for strategic leadership capabilities. Moreover, deceptive tactical messages travel easily along this road (or circuit) and can even reinforce it.

<sup>10</sup> While useful, memory can be narrow-minded and biased. It is sobering to contemplate the reliance of the criminal justice system on something so fallible and malleable.

## Series References

- Barrett, L. F., (2017), How emotions are made. The secrets of the brain, New York, Pan Books
- Churchland, P.S., (2019), Conscience. The Origins of Moral Intuition, New York; London, Norton & Company
- Dehaene, S. (2014), Consciousness and the Brain. Deciphering how the brain codes our thoughts, New York, Viking-Penguin
- Dehaene, S. (2020), How we learn. Why brains learn better than any machine...for now, London, PenguinRandom-Viking
- Dehaene, S.; Le Cun, Y. & J. Girardon, (2018), La plus belle histoire de l'intelligence. Des origines au neurones artificiels: vers une nouvelle étape de l'évolution, Paris, Robert Laffont
- Dunbar, R.I.M., 1993, Coevolution of neocortical size, group size and language in humans, Behavioral and Brain Science, 16(4): 681-735
- Forbes, R.L., (2015), "Inside the CEO's Brain: Leadership, Management and Neuroscience", SSRG International Journal of Economics and Management Studies, Vol.2(6): 11-17
- Gazzaniga, M. (2005), The Ethical Brain, New York, Dana Press
- Johnson, M., (2014), Morality for Humans. Ethical Understanding from the Perspective of Cognitive Science, Chicago; London, Chicago University Press
- Iansiti, M. K.R. Lakhani, (2020), Competing in the Age of AI. Strategy and Leadership when Algorithms and Networks run the world, Cambridge MA, Harvard Business Review Press
- Robson, D., (2019), The Intelligence Trap. Revolutionise your thinking and make wiser decisions, London, Hodder & Stoughton
- Satel, S. & S.Q. Lilienfeld, (2013), Brainwashed. The seductive appeal of mindless Neuroscience, New York, Basic Books
- Schwartz, J.; Thompson, J. & A. Kleiner, (2016), "Neuroscience of Strategic Leadership. Research shows how leaders can take the high road less traveled", PWC-Strategy&Business, December
- Waldman, D.; Ward, M. & W.J. Becker, (2017), "Neuroscience in Organizational Behavior", Annu. Rev. Organ. Psychol. Organ. Behav., Vol. 4): 425-444

## Further Reading

- Badaracco, J.L., (2013), The Good Struggle. Responsible Leadership in an Unforgiving World, Cambridge MA, Harvard Bus School Press
- Badaracco, J.L., (2016), Managing in the Gray. Timeless questions for resolving your toughest problems at work, Cambridge MA, Harvard Business School Press
- Bergstrom, C.T. & J.D. West, (2020), Calling Bullshit. The Art of Scepticism in a Data-Driven World, London, Allen Lane-Penguin
- Caruso, G. & O. Flanagan, (2018), Neuroexistentialism: Meaning, Morals and Purpose in the age of Neuroscience, Oxford, Oxford University Press



Changeux, J.-P. (translated by M. DeBevoise), (2004), *The physiology of Truth: Neuroscience and Human Knowledge*, The Belknap Press

Chomsky, N., (1966), *Cartesian Linguistics*. A chapter in the history of rational thought, Cambridge MA, Cambridge University Press

Churchland, P.S., (2011), *Braintrust*. What Neuroscience tells us about Morality, Princeton & Oxford, Princeton University Press

Damasio, A. (2006), *Descartes' Error*, New York, Vantage Books

Dweck, C.S., (2006), *Mindset: the new psychology of success*, New York, Random House.

Harari, Y.N., (2017), *Homo Deus*. A brief history of tomorrow, London, Vintage

Heffernan, M., (2020), *Uncharted*. How to Map the Future Together, London, Simon & Schuster

Hinton, G. & T. Sejnowski, (1999), *Unsupervised Learning: Foundations of Neural Computation*, Cambridge MA, MIT Press

Gazzaniga, M. (2011), *Who's in charge? Free will and the science of the brain*, New York. HarperCollins

Gazzaniga, M. (2015), *Tales from both sides of the Brain*. A life of neuroscience, New York, HarperCollins

Goleman, D., (2009), *EcoLogical Intelligence*. How knowing the hidden impacts of what we buy can change everything, New York, Broadway Books

Goleman, D., (2013), *Aandacht*, Het fundament van emotionele intelligentie, Masterdam, Uitg Contact

Goleman, D. & R.J. Davidson, (2017), *Altered Traits*. Science reveals how Meditation changes your Mind, Brain and Body, New York, Avery-Penguin

Johnson, S., (2018), *Farsighted*. How we make the decisions that matter most, London, John Murray

Lieberman, M.D., (2007), "Social Cognitive Neuroscience: a Review of Core Processes", *Annual Rev. Psychol*, Vol. 58: 259-289

Pott, H., (1992), *De Liefde van Alciabiades*. Over de rationaliteit van emoties, Amsterdam, Boom

Simon, H.A., (1987), "Making management decisions: the role of intuition and emotion", *Academy of Management Executive*, Vol. 1(1)

Sinek, Simon (2009), *Start with Why*. How great leaders inspire everyone to take action, New York, Penguin-Portfolio

Sinek, Simon (2013), *Leaders eat last*. Why some teams pull together and others don't, New York; London, Portfolio Penguin

Sinek, Simon (2019), *The Infinite Game*. We can't choose the Game. We can't choose the Rules. We can only choose how we play, Portfolio Penguin

Shook, J. & T. Solymosi, (2014), "Neuropragmatism and Reconstruction of Scientific and Humanistic Worldviews" in Solymosi, T. & J. Shook, *Neuroscience, Neurophilosophy and Pragmatism*, New York, MacMillan

Webb, A., (2016), *The Signals are Talking*. Why Today's Fringe is Tomorrow's Mainstream, New York, PublicAffairs

Williams, P.B. & H.C. Nusbaum, (2016), "Toward a Neuroscience of Wisdom", *Neuroimaging Personality, Social Cognition, and Character*, Chapter 21: 383-395



## About Amrop

With offices in all world regions, Amrop is a trusted advisor in Executive Search, Board and Leadership Services. Amrop advises the world's most dynamic organizations on finding and positioning Leaders For What's Next: top talent, adept at working across borders in markets around the world.

Amrop's mission: shaping sustainable success through inspiring leaders.

[www.amrop.com/offices](http://www.amrop.com/offices)

## About Dr. Peter Verhezen

Peter is Visiting Professor for Business in Emerging Markets and Strategy and Sustainability at the University of Antwerp and Antwerp Management School (Belgium). As Principal of Verhezen & Associates and Senior Consultant in Governance at the International Finance Corporation (World Bank) in Asia Pacific, Peter advises boards and top executives on governance, risk management and responsible leadership. He has authored a number of articles and books in the domain.

[www.verhezen.net](http://www.verhezen.net)

## About the Amrop Digital Practice

Amrop's global Digital Practice combines deep sectoral knowledge with local market expertise, backed by global resources and integrated cross border key account management. We have long term partnerships with our clients on the digital transformation journey. Not only in delivering critical assets — the Leaders For What's Next — but in assessing boards and management teams, implementing succession planning and talent management solutions.

- AI/Machine Learning & Big Data Analytics
- Chief Digital Officers (CDO), Chief Information Officers (CIO) and Digital NEDs
- Cyber Information Security Officers (CISO)
- E-Commerce, Sales Executives
- Scale-up, Venture Capital
- Media & Entertainment
- Fintech
- Telco

©2020 The Amrop Partnership SCRL. All rights reserved.

Photography by Unsplash: Paolo Bendandi, Karl Lee