

### **Book Review “*Social: Why our brains are wired to connect*”**

Rodrigue Fontaine

International Islamic University Malaysia

Matthew Lieberman’s “*Social: Why our brains are wired to connect*” published by Oxford University Press in 2015 completely blew my mind. Since the early 2000s, I have been following the development of neuroscience with a mixture of concern and amazement. I had concern because virtually every theory of management and organisational behaviour was written before imaging technology allowed neuroscientists to peek inside the brain. I was amazed because neuroscientists have discovered so much so quickly that writers of textbooks will have to completely rewrite their texts.

Dr Matthew Lieberman is a professor in social psychology at UCLA. His research merges neuroscience and social psychology. His book summarises some of the research in this area in an easy to read and easy to understand language. There is no easy way to describe his book so I will present a summary first.

Chapter one is an introduction. Lieberman says that three things are important: connections, mindreading, and harmonizing. *Connections* means we feel social pain and social pleasure. *Mindreading* means we understand the thoughts and feelings of others. This allows us to work in groups. *Harmonizing* means that other people to influence our own beliefs and values. In this introductory chapter, Lieberman stresses that people have a massive blind spot for their social wiring. They have a theory of “who we are” but that theory is wrong. This theme will be repeated throughout the book.

Chapter two starts with a question: what happens to our brain when we do nothing? It turns out that we are thinking of other people. It turns out that our brain has two “intelligence network”. The general intelligence network (GIN) and social intelligence network (SIN) use different parts of the brain. When individuals are involved in solving a problem, GIN switches on and SIN switches off. When the individual is at rest, GIN switches off, and SIN switches on. This social network is essential for working and living in large groups, and living in large groups is essential for human survival.

Chapter three looks at physical pain and social pain. The same parts of the brain are activated. As far as the brain is concerned, social pain is as real as physical pain. Examples of social pain include being rejected and experiencing verbal abuse.

Chapter four looks at how the brain reacts to the joy of receiving good stuff and the joy of being treated fairly. Brain studies show that being treated fairly is a reward. The same parts of the brain that love chocolate love fairness. When people get positive feedback, their brain “lights up”, even when they get feedback from strangers. More interestingly, brain scans show that financial rewards and social rewards activate the same parts of the brain. Lieberman writes, “*we don’t understand the fundamentally social nature of our brains*”<sup>17</sup>. This is particularly true with regards to praise and money. Lieberman argues that money is a “social reward”. Rewards

are divided into two categories. Primary reinforcers: food, water, thermoregulation (these are ends in themselves). Secondary reinforcers: these things not rewarding in themselves but their presence predicts the possibility of primary reinforcers. Money is a secondary reinforcer: you can't eat it or drink it. The only thing you can do is save it in order to buy food, water, clothes, or a house. Social reward is a primary reinforcer: when we get together, work together and take care of one another, we survive.

This idea is quite controversial at first but it has been tested using the Prisoner Dilemma. The Prisoner Dilemma has been used for decades to test all kinds of theories. In this version, if the prisoners betray their friends, they gain a financial reward. If they are loyal to their friends, they lose the financial reward, but they get a social reward. In typical studies, 64% of people seek a personal gain and about 36% cooperate. However, when one prisoner is told that the other is willing to cooperate, the rate of cooperation goes from 36% to 61%, even though their pay-off is halved. Using brain scans, researchers found that the social rewards were more "appreciated" by the brain than the financial rewards.

Lieberman notes that since the 18<sup>th</sup> century, people have assumed that individuals are motivated by self-interest. This might not be true. Lieberman explores the brain studies that have looked at altruism. These show that we are "wired" to be altruistic. However, these scientific facts go against the dominant narrative that people are only motivated by self-interest. Lieberman writes, *"Our theory of 'who we are' suggests that we cooperate in order to ultimately achieve a better end for ourselves. Once again, we see this theory of human nature as being misguided because it doesn't take into account the social motives that sit along our familiar selfish motives. Mutual cooperation activates the reward system as an end in itself."*<sup>ii</sup>

Chapter five looks at the process of "mentalizing". This is when we think about the mental state of others. This allows us to coordinate our thoughts with others. Experiments suggest that mindreading starts around ages 3 to 5 years-old. It allows to anticipate social situations by imaging what others will think, feel, and behave. When people were asked to read texts that include mentalizing, the GIN went quiet and the SIN became active. Mentalizing is our default state and it primes us to anticipate social encounters. The purpose of mentalizing is to coordinate social action. Mentalizing is unique to human beings.

Chapter six focuses on mirror neurons. Lieberman writes, *"neuroscientists had thought of the brain as being divided into different sections for perceiving, thinking, and acting. But in mirror neurons, perception and action was occurring at the same exact neuron. Picking up a peanut and seeing another person pick up a peanut had the same effect on neurons"*<sup>iii</sup>. Mirror neurons help us to imitate others so they are essential for the development of culture. They help us mind read others by enabling us to recreate in our mind the minds of other people. Lieberman offers an analogy. There are high level goals like writing a story. To achieve this high level goal, one needs to achieve lower level goals like typing. Mentalizing is like writing a story and mirror neurons are like typing.

Chapter seven was not very interesting so I will jump to chapter eight. Researchers have found that seeing yourself in the mirror activates different neural networks than thinking about yourself. As far as the brain is concerned, self-seeing is different from self-knowing.

Lieberman describes the “self” as a “*social Trojan horse*” that encourages us to be social. He argues that our understanding of who we are is socially constructed. At the same time, we persuaded ourselves that that these beliefs and values are ours.

All studies indicate that the medial prefrontal cortex (the MPFC) is where identity is formed. Identity is formed through direct appraisal (“I think I am smart”) and indirect appraisal (“my friends think I am smart”). In both cases, the MPFC plays an important role. In practice, it means other people can influence us and we assume that these ideas were ours, and ours alone. Studies on the effectiveness of marketing messages show that verbal intention is not always correlated with behavior (e.g. if someone says “I plan to buy product A”, that does not mean he will end up buying this product). When individuals saw advertising and the MPFC was activated, it was highly correlated with behavior. Lastly, focus groups are not very effective because people are often unaware of social influence. The MPFC has a dual role. It is responsible for building our identity and allowing others to influence us without us realizing it. This means we are primarily social beings. The MPFC allows us to assimilate the values in our communities without us realizing it. Lieberman notes that the nature of being is “*being cared for and caring for others*”<sup>iv</sup>.

Chapter nine focused on self-control. Research shows that self-control is the best predictor of success at school, university and work. The more over-rated IQ is less important<sup>v</sup>. It turns out that self-control is very much like a muscle. It can increase with practice however, when people are tired, their ability to control themselves disappear. The area of the brain that is linked to self-control is called rVLPFC. This “braking system” has been linked to intention of quitting smoking, overcoming a belief bias, overcoming a framing effect, suppression (i.e. hiding one’s emotions), reappraisal (i.e. our ability to see things in a way that is less distressing for us), and affect labeling (i.e. putting emotions into words reduce their emotional impact). Readers should not be surprised to learn that self-control benefits other people in society more than it benefits the individual. As Lieberman puts it, “*self-control is the price of admission to society*”<sup>vi</sup>. He writes,

*People assume that we are built to maximize our own pleasure and minimize our own pain. In reality, we are built to overcome our own pleasure and increase our own pain in the service of following society’s norm. Once again, this highlights how poor our theory of “who we are” is*<sup>vii</sup>.

Chapter ten, eleven, and twelve are the implications of these brain studies. Almost everything – social life, education, and business – becomes better once the social is taken into consideration. For example, in chapter ten, Lieberman writes that most people assume that money will give them happiness and well-being. Research shows that once you are above the poverty line, extra income adds little to your perceived well-being. In fact, in most countries, income levels have risen 500% in the last 30 years while levels of well-being have not changed. He writes,

*“The vast majority of people indicate that making money is one of their primary life goals because they believe that it will give them a better life in the end. Yet*

*study after study reaches the same conclusion: it won't. We have been barking up the wrong tree. How can we, as a society, have gotten this so wrong for so long<sup>viii</sup>”*

It turns out that social have a more positive impact than income. Somewhere along the line, the pursuit of happiness got confused with the pursuit of income and career advancement<sup>ix</sup>.

In chapter eleven, the business implications of the social brain are discussed. This is a new area of study so not much has been done. Most people assume pay for performance works but studies show that in fact most pay for performance programs fail to deliver increase productivity. Despite this, pay for performance is the dominant model in the business world. David Rock at the Neuroleadership Institute (<https://neuroleadership.com/>) found that working on the “social” works better. Rock proposes the SCARF model. SCARF stands for status, certainty, autonomy, relatedness, and fairness.

Lieberman notes that most work requires a combination of intelligence, motivation, and social skills. Unfortunately, most companies focus on human capital (amount of intelligence, experience, and education employees have) but they forget social capital (the social connection and social network within an organization). Yet, one economist studied three consulting firms to determine whether productivity was driven by human capital or social capital. The economist found that productivity was mostly driven by social capital<sup>x</sup>.

Apart from status, fairness has also an important impact on productivity. Some studies indicate that it can increase or decrease productivity by as much as 20%<sup>xi</sup>. Another dimension is the desire to help others. One researcher found that most people find their work more meaningful if it allows them to help others. In one study, people were raising money to help undergraduates financially. To incentivize the callers, the managers invited a beneficiary to talk to them for five minutes. This led to a 140% increase in productivity over the following month. Another study looked at employees donating money to help the company's care center. This act of sacrifice led to greater job engagement, reduced absenteeism, and increased productivity. In Gallup poll, 65% of employees say they would prefer a better boss over more pay. Lieberman concludes,

*“People often talk as if their company, job, or workplace is solely about getting a paycheck or helping the company increase profits. This conversation is predicated on the norm – the belief that self-interest is the only thing that motivates people. We have been bombarded with this idea for so long that it's the only conversation that we know how to have about the workplace. But it's the wrong conversation because it misses so much of what actually makes us us. Knowing that we are in an organization that cares for us, for other employees, and for the community creates attachments that are surprisingly effective at keeping us motivated and engaged. Few of us know this about themselves, but that doesn't make it any less true<sup>xii</sup>”*

As a conclusion, this book is a must-read for any serious researcher in organizational behavior. The reasons should be obvious but I will focus on two main issues.

First, every theory of management is based on the assumption that people are motivated by self-interest. Throughout history, people were aware of a general intelligence network. People

were also aware that we are social animals. But the extent to which our social nature takes precedence over our social nature can only be appreciated by reading Lieberman's work (and works like it). The idea that humans are more altruistic than we thought is very encouraging.

Second, it is a truism to state that the world faces incredible social, economic, and political problems. These are not simply localized problems. But for the first time in history, there is growing realization that this threat is existential. Humanity has already put so much stress on the planet that it can reach a point of no-return. In the literature, this is sometimes known as the tragedy of the commons. This refers to a situation where a shared-resource is over-exploited when individuals seek to maximize their advantage at the expense of the common good. The only way to solve the tragedy of the commons is through cooperation. The world now is facing a tragedy of the commons at a global scale. Discovering that our nature is more ultraistic than selfish offers hope that we will be eventually able to figure out a solution.

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<sup>i</sup> Lieberman, 2015, p. 78

<sup>ii</sup> Lieberman, 2015, p. 86

<sup>iii</sup> Lieberman, 2015, p. 133

<sup>iv</sup> Lieberman, 2015, p. 202

<sup>v</sup> Lieberman, 2015, p. 206

<sup>vi</sup> Lieberman, 2015, p.224

<sup>vii</sup> Lieberman, 2015, p. 226

<sup>viii</sup> Lieberman, 2015, p.245

<sup>ix</sup> Lieberman, 2015, p.248

<sup>x</sup> Lieberman, 2015, p. 262

<sup>xi</sup> Lieberman, 2015, p.263

<sup>xii</sup> Lieberman, 2015, pp. 267-268