

# Chapter 15

## Re-Thinking Evaluation in the Era of Neuroscience

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### ABSTRACT

*The main goal of any form of life is survival, by any means. All the processes happening in any life form obey this only rule of survival. Humans are the most sophisticated – not necessarily in the good sense of the word – in making this survival as complicated as possible. Authors developed intricate systems of evaluation, quotients – of intelligence, of emotion, of consciousness, etc. – and tried to fix in little boxes, like a skilled worker that deals with any machinery – each component of life, without even understanding what life is. It is a time when evaluation has to be reconsidered - in the context of a failed world.*

### INTRODUCTION

The main goal of any form of life is survival, by any means. All the processes undergoing in each of any form of life parts obey this only rule of survival, let humans be the most sophisticated – not necessary in the good sense of the word – in getting this survival as complicated as possible. We developed intricate systems of evaluation, quotients – of intelligence, of emotion, of consciousness etc. – and tried to fix in little boxes, like a skilled worker that deals with any machinery – each component of life, without even understanding what life is, in fact. We arrived in a time when all the efforts in categorizing, in dissecting the whole in order to understand how it functions, turned to the salvation of what our species destroyed – sometimes in the name of knowledge.

Our DNA is still bearing the information of Neanderthals and Denisovans, our reflexes, shadows of our ancestors', still mirror their fight for survival. Our ancestral territoriality, hunger, protection of litter etc. – all bear other names, morally or ethically justified, though no one knows what is really moral or ethic. What do we test, what do we evaluate, in the end? In a competition for survival, who is the one who wins – the “gifted”, with its 180 for IQ, or the insignificant, who knows how to find the springs to get water? Actually, this is the only competition that could ever exist... the one for survival.

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We are a bunch of tiny molecules, some of them arranged in receptors or sensors, collecting information, processing it, folding and refolding to maintain the environment as constant as possible. At nanoscale, evaluation is crude and cruel – mistakes are eliminated and re-processed. At our scale, as humans, evaluation gives a quotient of our “knowledge” in doing things which might be useful sometimes... but mostly not.

What if we consider ourselves as neurons, as parts of a huge connectome, each neuron with its own DNA, form and function, and specialization? What if we train for communication and cooperation, taking advantage of our own uniqueness, waiting for the other to get to its own threshold? Right now, our educational systems prefer to impose instead of support, to find the “fittest” for those artificial systems, though the survival is not guaranteed to the fittest, but for the opportunist – the one who can adapt, who gets access to the whole.

We live in an era of survival. Only the opportunists will make it – those who understand the deep meanings of life and use them. We need to reconfigure our whole way of being if we want to continue our existence. Right now, we are a curious species, that runs faster and faster towards its own destruction, with a too developed frontal and prefrontal brain – we don’t really know why, and for what, or if there is any purpose in that, or just another trial in the fractal nature of the... nature itself.

We think we are the only ones who are conscious of our existence, we evaluate our intelligence, our emotions, our consciousness, but we are completely unprepared for survival – no matter if we will witness a natural catastrophe, or our transfer on a chip. Our proposal is to consider neuroscience and connectomics in creating another type of evaluation, which could not only identify the impairments at the brain level, but the way neural networks switch between different tasks and adapt to different situations.

## **TEACHING AND EVALUATION IN THE ERA OF NEUROSCIENCE**

One of the most important, hard, time & energy consuming activity is training the offspring for survival – no matter if animal or human. Evolutionary speaking, this is our bet for the future, for the immortality, which some adorn with all kind of emotions, in order to find a more spiritual reason for this quite mundane preoccupation.

People need rituals to give a sense to their life. Spirituality – whatever it means for everyone – has profound effects on people all around the world. Rituals, embedded later in religion and its practices, activate the same reward circuits of the brain, particularly the *nucleus accumbens*, that control pleasure, and associated with sex, music, love and... drugs. Some need this connection with a kind of superior intelligence, which is supposed to act upon them, or manifest through them. Some name it consciousness – an illusion that appears to be a complete and accurate experience of the universe (outside and / or inside us). Neuroscience sees consciousness as an emergent phenomenon (or an epiphenomenon) generated by the electromagnetic fields created by the movement of the charged particles between the inside and the outside of our cells. There is no experiment to confirm any of the properties that consciousness appears to exhibit. The only paradox we have to confront is that we are simultaneously and synchronously both the subject and the object of our perception. But with a time-lag required to process information – actually, we perceive ourselves as we were some fraction of a second ago.

It looks like the spiritual experience comes with feelings of peace, warmth, but deeper breath and faster heartbeats as well. Jeff Anderson, the author of one of the first studies belonging to the Religious Brain Project, points out: „religious experience is perhaps the most influential part of how people make

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