

Chapter 2

Decision-making Process

Understanding how the human brain makes decisions in several contexts is one of the biggest challenges in science for the next decades or centuries. Because people make decisions all the time, it is very important to choosing the adequate questions to be investigated, what implies to clearly define the meaning of words such as *necessity*, *motivation*, *intention*, *purpose*, etc. Any research in the area needs first to clearly define the fundamental concepts involved in the understanding of free will, in order to search for their neural correlates.

Any living being has to use available resources to maintain its identity in space and time, meaning that they, as primordial goals, need to obtain the resources to synthesize their constituent chemicals, to obtain energy to support their chemical transactions and to create other similar living beings, in other words, to reproduce themselves (Rocha and Rocha, 2011; Rocha *et al.*, 2013). Goal achievement and maintenance create necessity for goods and services. Such necessities motivate the animals to act in order to obtain them. Decision-making about how to satisfy needs is, therefore, the key issue in living (Rocha and Rocha, 2011). As life complexity increases, other complementary goals are implemented to maintain individual identity. The complexity of motivations increases as life evolves on Earth and puts increasingly demands upon computation resources to support decision-making.