

The Notion of Emotions

Emotions are a type of heuristic mechanism that plays important role in making future decisions within the Semantic State Machine. Emotions record negative or positive historical experiences and pre-determine future decisions which are semantically related to past decisions and past experiences to which there have been attributed emotions of similar sign and order of magnitude. It is important to understand that in order to experience positive or negative emotion the current environment (or context) does not need to be identical or equivalent to a past context. Rather it needs to bear a sufficient degree of semantic similarity. To put this definition on more precise footing let us define the following objects:

E_0 : original state of the environment

C_0 : a historical context at moment t_0

CT_0 : a chain of thoughts $T_0 \rightarrow T_1 \rightarrow T_2 \rightarrow \dots \rightarrow T_k$

D_0 : decision resulting from the context C_0 and the thought chain CT_0

E_1 : state of environment modified after the execution of decision D_0

C_1 : a new context

SE_0 : a set of Sensibility structures affected from the changed environment E_1

EM_0 : a set of emotions produced after the Sensibility structures SE_0 interact with the changed environment through a chain of thoughts CT_1 generated as a result of the new environment E_1

The set of emotions EM_0 are associated with the semantic signature of the chain of thoughts CT_0 in the context C_0 .