

# FORCE DYNAMICS AND AFFECTIVE METAPHORS

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## Sommario

One of the hottest research programs in recent AI and computer science is the development of ‘emotional agents’ – e.g. embodied pro-active minds – able to elaborate and to produce emotional information. The main theoretical framework founding this scientific enterprise concerns the idea that emotions are “states elicited by rewards and punishment”: according to this approach (human/animal or artificial) systems process environmental stimuli, estimating whether something is rewarding or punishing [1].

In this sense, emotions are seen as the result of particular kinds of computations activated by suitable stimulations. Nevertheless, this framework does not consider the peculiar cognitive structures intervening when affective states like fear, pain, happiness, pleasure, anger, etc. arise in a human agent: emotions are forms of conceptualization and by mean of this, according to cognitive semantics, they are ‘caught’ by appropriate conceptual schemas. In particular, Kövecses [2] claims that in common folk psychology emotions are interpreted as “causes that lead to certain behavioural responses”, instantiating the schema of force dynamics in the space of conceptualization.

Kövecses’ analysis is focused on the linguistic metaphors that specify the general gestalt schema of force dynamics, aiming at singling out the manifest coherence of the conceptualization of emotions with respect to the cognitive basis of language(s).

Our work is devoted to closely examine force dynamics in the psychological and emotional domain, trying to point out the conceptual structure of the main linguistic instantiations of that schema. We think that this analysis can be useful to enrich the kind of semantic/ontological information encoded in large computational lexicons of emotional concepts, i.e. WordNet-Affect [3], which are restricted to dimensional classification of emotional terms and do not consider the characteristic cognitive relations holding among them.

## References

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- [2] Z. Kövecses, "Force and Emotions," in *Meaning and Cognition*, L. Albertazzi, Ed. Amsterdam: Benjamins Publishing Company, 2000, pp. 145-168.
- [3] C. Strapparava and A. Valitutti, WordNet-Affect: An Affective Extension of WordNet.  
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