



POETICON

The "Poetics of Everyday Life" Grounding Resources and Mechanisms for Artificial Agents

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Project URL: <http://www.poeticon.eu>

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Reproducing an act with sensorimotor means and using fine natural language for communicating the intentionality behind the act is what Aristotle called "Poetics". POETICON explores the "poetics of everyday life", i.e. the synthesis of sensorimotor representations and natural language in everyday human interaction. This is related to an old problem in Artificial Intelligence on how meaning emerges, which is approached here in a new way.

POETICON follows an empirical approach for discovering the "languages" of sensorimotor representations and the correspondences with natural language; guided by experiments in psychology and neuroscience, it employs cutting-edge equipment and established cognitive protocols for collecting face and body movement measurements, visual object information and associated linguistic descriptions from interacting human subjects, with a two-fold objective:

➤ **The creation of the PRAXICON**, a computational resource which associates symbolic representations (words/concepts) with corresponding sensorimotor representations, as well as patterns of combinations among these representations for forming conceptual structures at different levels of abstraction. The resource will be the output of *computational tools that will be developed for the analysis of sensorimotor representations, of cognitive experiments that will be undertaken for establishing the*



associations with natural language, and of a *learning mechanism* that will be developed for extending the resource automatically.

➤ **The exploration** of the association of symbolic and sensorimotor representations through **cognitive and neurophysiological experiments** and **experimentation with a humanoid** as *driving forces* and *implementation tools* for the development of the PRAXICON, respectively.

POETICON views a cognitive system as a set of different languages (the spoken, the motor, the vision language and so on) and provides a set of tools for parsing, generating and translating among them. Through inter-disciplinary research, it contributes to the exploration of what integration in human cognition is and how it can be reproduced by intelligent agents. This is an ambitious first step for revealing and conquering the “poetics of everyday life”.

Note: Upon completion of the project, the POETICON data recordings and the PRAXICON will be made available to the research community under a *Creative Commons Attribution – Non Commercial – Share Alike* license.

Project details

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Participants

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