

Introduction

• Although deeply rooted within the European scientific and philosophic tradition, the development and consolidation of cognitive science as a specific research domain is one of the most interesting intellectual achievements in this second half of the century. This interest comes from both its domain and its interdisciplinary character. Thanks to the confluence of psychology, linguistics, computer science, logic and philosophy, and neurosciences, and to their reciprocal fertilizations, it has been possible to contrive and constitute this new field of scientific research. When, upon discovering that mental processes or brain functions such as perception, reasoning, or language, can indeed be studied and described in terms of structural regularities and formal patterns independent from their notional content, the discovery is added that these functions can also be studied independently from their physical or biological bases, the metaphor of the brain as hardware and the mind as software is offered spontaneously and fruitfully, and the connection between humanistic disciplines and computation science is strengthened. Exploring the results, the validity, and the limitations of this metaphor is this Workshop's first goal.

• Now, the long-standing fact that the cognitivist focusing has been formal and centered on the individual, can let us forget neither the problem of interpretation nor the problem of environmental interaction. Every cognitive system conveys a semantic content, and actually the notion of representation takes a leading role within cognitive science. Every mental representation has, besides its own identifying formal properties, a logical form determining its intrinsic meaning in terms of the system it belongs to, and an interpretation of the environment it moves around while interacting with other organisms in this environment. Cognitive science cannot avoid the pragmatic and socio-cultural dimensions that the existence itself of mental processes implies and, in part, conditions. The debate between formalism and realism, between solipsism and naturalism, remains open, and a cognitivist approach to the socio-cultural reality is of utmost importance. Reflecting on the relationship between cognitive and cultural sciences is the Workshop's second goal.

• Two of the outstanding convergence fields within the study of language and computer sciences are speech technology and natural language processing. Whereas the first aims at smoothing the communication between humans and computers throughout speech, the second intends this communication to be undertaken through what is commonly known as «natural language», that is to say, when a system user has not had to learn a specific code (= programming language) previously. The work on these two areas has both a practical side, so as to attain the above mentioned aims, and a theoretical side, centered on the research of a formal system of language description and on deepening the knowledge of the processes implied in human verbal communication. Discussing the interrelationship between both fields, describing updated results, and evaluating future perspectives, are the main aspects to be dealt within this Workshop.

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