

MAS and Social Simulation: A Suitable Commitment

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Abstract. The goal of this introduction is to point out several similarities and differences between the research fields of multi-agent systems and social simulation. We show that these fields are complementary in several aspects, thus each one can benefit from results that emerge from the other. We finish the introduction by presenting and classifying the contributions in this volume.

1 Multi-Agent Systems and Social Simulation: Objective Affinities

The research fields of multi-agent systems and social simulation have some interesting points in common. We characterize each of the fields next, stressing their mutual influences in the last years.

1.1 Multi-Agent Systems

The field of Multi Agent Systems (MAS) is a well-established research and applied branch of AI, which has taken its impetus from the problems encountered in the implementation of tasks on distributed computational units interacting with one another and with the external environment (Distributed AI). A report on the results achieved within DAI, and a synthesis of the reasons underlying the development of the MAS field, is beyond the scope of this introduction (for a quite comprehensive picture, see O'Hare and Jennings 1996). Suffice it to say that distributed AI systems soon revealed a need for autonomy. The more autonomous the local units of the system from a central one, the more efficient the task distribution and execution, and the lower the computational load of the overall system. This discovery stimulated AI researchers and designers to turn their attention to intriguing and apparently philosophical issues, such as how to conceive of an autonomous system and how to design it. In turn, the development of autonomous systems brought about another perhaps even trickier question, i.e. how to obtain coordination and cooperation among autonomous systems executing a common task?