

Dependence and independence – a logical approach

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I will give an overview of dependence logic, the goal of which is to establish a basic logical theory of dependence and independence underlying seemingly unrelated subjects such as game theory, causality, random variables, database theory, experimental science, the theory of social choice, Mendelian genetics, etc. There is an abundance of new results in this field demonstrating a remarkable convergence. The concepts of (in)dependence in the different fields of humanities and sciences have surprisingly much in common and a common logic is starting to emerge.