

Logic and Game Theory

by Mamoru Kaneko, 2017 May 16

Abstract:

In this presentation, I make conceptual connections between logic and game theory. First, I give a small introduction to each field. Then, a Japanese comic story called “Konnyaku Mondo” is introduced to describe a basic problem on one’s understanding about the other person’s thought. The Konnyaku Mondo phenomena are often observed in our real lives. It is indicative of the distinction between a symbolic expression and its intended meaning; this is a very basic distinction in the modern logic. The story leads also to a new field in game theory called “Inductive Game Theory” that I and several collaborators have developed. Indeed, we construct a game theory example having the feature of the Konnyaku Mondo that two players are playing a game with mutual misunderstanding of the situation, but they cannot correct their mutual misunderstanding even after they have played the game several times.