TÍTULO: "Markov transition systems - Bisimilarity is not the solution, but the problem".

RESUMEN: We discuss relational and Markov transition systems as the basis for
Kripke models for modal logics and give an overview of logical equivalence, bisimilarity and behavioral equivalence. These forms of expressivity are related to each other both in the relational and the probabilistic case. An example assuming the Axiom of Choice shows that a basic construction from the relational case fails to work in the probabilistic case. The situation changes, however, when Markov systems are assumed to work over certain types of topological spaces, and we indicate what can be done in order to arrive at a satisfactory solution.