Playing with networks: how economists explain

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Network theory is applied across the natural and social sciences to model phenomena as diverse as the spread of contagious diseases, patterns of teenage pregnancy, and job search. Underlying the study of networks is the mathematical theory of graphs. Graphs are collections of nodes that are linked with each other via a discrete set of edges. Whether a graph represents a network of cells, friends or firms, it displays features that depend on the mathematical properties of the graph. A large body of empirical studies shows that real-world networks in different domains have common properties that can be captured by graph theory. On the other hand, the fields don't deal with networks in the same manner and such differences have more to do with the fields' characteristic modelling conventions than with their specific subject matters. This paper compares the way in which network theory is applied in economics with the way in which is applied in sociology and physics to bring out the modelling and explanatory conventions that distinctively characterize the economics variant of network theory.