Review of Prell C. (2012) *Social Network Analysis: history, theory and methodology* Los Angeles, London, New Delhi, Singapore, Washington DC, Sage Publications Ltd.

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Social network analysis (SNA), once a remote out-post in the realm of sociology research is suddenly in vogue. Everyone has heard of social networking and everyone is doing it – at least when we take it to mean connecting with virtual friends on Facebook, Twitter or the latest, trending social networking app through the smart-phone which has become permanently affixed to our hands.   But in the social and, indeed, natural sciences, tools that allow us to study the interconnections between the components of complex systems are yielding powerful new insights into how these systems function. How I make and break friendships might seem of little relevance to society at large, except for perhaps to my own happiness, but when an entire social grouping is studied in terms of the social links that connect the people in that society, it transpires that we can make inferences about how allegiances are formed, how rumours spread, which people are most influential and why. These inferences can be applied by businesses to better target customers for their services, or to better organize their management structures to allow better decisions to be made more quickly, or to identify the most valuable people in their organization. Social network analysis has entered the realm of big business.

The study of societies in terms of their social links has a more than 50-year history, going back to pioneering work by the likes of Moreno in the 1940's. But social network analysis has seen a ballooning of interest since the last decade of the last millennium, due to powerful new techniques emerging from computer science and mathematics, along with the ready availability of large amounts of data in the form of social traces that people are now freely leaving through their interactions online. From this bevvy of activity, new analysis software and tools have emerged

which should be in the armory of any new practitioner entering the field.

Christine Prell, a professor in sociology at the Maryland Population Research Center, released her introductory book to social network analysis in 2012 and competes with an array of books with similar titles and authors coming from diverse backgrounds such as statistics, computer science and physics, as well as sociology. Prell identifies three target audiences for her particular offering: the 'social network novice' (those without confidence in their knowledge of sociology, statistics or mathematics); those already familiar with SNA who have not yet worked with the newer models, methods and software; and finally those who wish to teach SNA and would like examples of ways to get students started with software applications and mathematical analysis. Given the diverse interests and backgrounds of these readers, pitching the discussion at an appropriate level, while managing to cover the main concepts to sufficiently useful detail, becomes the main challenge for the author. From the point-of-view of the researcher with a social science background but a relative novice to mathematical and computational methods, she succeeds in penning a useful introduction, by mapping a pathway for getting up-and-running in social network analysis. One immense benefit of the book for the 'social network novice' is the outlining of the practical steps needed for conducting a social network study. Issues such as data gathering, validity and reliability of data, the use of matrices as a framework enabling analysis and issues of an ethical nature are all defined, examined and summarized in Part I.

For those unfamiliar with the levels of analysis within the field of SNA, Part II offers a thorough grounding in the key techniques, for example, examining 'ego networks' consisting of the social structure linking actors connected to a particular 'ego' actor in the network. The size and density of these networks, as well some social network concepts such as 'homophily', 'brokerage' and 'structural holes' are clearly and succinctly detailed. Dyads (configurations consisting of two actors) and triads (local configurations consisting of three actors) and the relations between these are described so as to explore key analytical notions of structural balance, clustering and transitivity.

From these small group configurations, Prell proceeds to consider larger network structures. Key issues examined include various means of measuring social groupings in terms of density and cohesion. From this point onwards, the work becomes decidedly more mathematical in approach as positional and role analysis within groups is discussed. Of key importance here is the reminder to the reader that role analysis is best conducted using different procedures so that a simplistic idea

of role theory is not applied but issues such as power and coercion within groups are fully considered.

Part III considers the statistical significance of SNA and some key differences in different statistical techniques currently in use. Possibly of greatest value to the reader is the last chapter in which Prell identifies the 'big trends or hot topics for future social network analysis'. Some of these topics include the on-going importance of the consideration of social capital in SNA and the rise of social networking sites and the data on virtual relations which they engender. Developments in software and advice on how to get started in the use of such software is considered in the numerous appendices.

Overall this is a useful introduction, which leaves the reader with an overview of the field and whets the appetite for delving deeper into the research.