

# **Modeling the Characteristics of Radical Ideological Growth using an Agent based Model Methodology**

By

Paul K. Cummings

## **Abstract**

Conflict is no longer primarily a function of capital, labor and technology superiority on the battlefield. Rather, warfare has expanded to complex interconnected networks of information that can shape the outcome of conflict, on and off the battlefield. In the case of “hearts and minds” warfare, the Internet and social media has been used to share and often spread information in order to produce negative propaganda towards the conflicting parties. Using modern and highly prevalent methods of interaction, radicalized organizations continuously expand their networks through real-time information exchange, enabling operatives to organize, spread information (and misinformation), and recruit new members into their terrorist organizations. Two major strategies dealing with radicalism and ultimately terrorism have emerged in the past, 20 years. The first strategy, known as the *Security Risk* model, is influenced by the views which see terrorism mainly as a security issue. As a security threat, radicalism and its violent antecedent terrorism, should be confronted directly and, if necessary, with the use of force, including that of military. The fundamental goal is to eliminate the actors, the organizations as well as the resources associated with terrorism to prevent them from becoming a threat to security in the future. The second major approach, *Socio-Economic Hardship* model of radicalism moves the focus to the actors and conditions that make it suitable for the development of radicalism within a society, and methods to minimize those circumstances. This project intends to examine both approaches from the perspective of computational model development, and explore whether these theories are reasonable. I shall introduce a sufficient albeit parsimonious model designed to replicate key aspects of both approaches to curbing radicalism, and shall attempt to produce insights in these processes the complex nature of the problem may be better understood.

**Keywords:** Agent based Modeling, Conflict, Radicalization, Social Networks.