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Target in Control

Social Influence as Distributed Information
Processing

 Springer

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Foreword

Traditionally, the theories and methods of the social sciences and humanities—the so-called “soft” sciences—were believed to be irreconcilable with the perspective and methods of physics, chemistry, and the like, the so-called “hard” sciences (Snow 1959). The bridging of these distinct domains of inquiry within a single conceptual framework in recent years counts as one of the greatest achievements of the complexity perspective. Theoretical concepts, analytical tools, and research methods that originated in physics, mathematics, and computer science, including such notions as emergence (e.g., Holland 2000), self-organization (e.g., Ulrich and Probst 2012), complex networks (e.g., Watts and Strogatz 1998; Albert and Barabási 2002; Strogatz 2001), complex systems (e.g., Sawyer and Sawyer 2005), dynamical systems (e.g., Nowak and Vallacher 1998; Vallacher and Nowak; Devaney 2008), and agent-based modeling (e.g., Davidsson 2002; Gilbert 2004), have revolutionized psychology, the social science, and the humanities.

The approach of complex systems, however, has also generated the potential for influence in the other direction, such that insights generated in the social sciences may inform theory and research in the physical sciences. Armed with the tools developed in physics, mathematics, and computer science, social scientists can investigate questions and explore avenues that are of interest to theorists and researchers in the hard sciences. Indeed, human groups and societies are increasingly recognized as arguably the most complex of all systems and thus represent a new challenge for those who heretofore had focused on physical phenomena (Vallacher et al. 2018). Human social systems are characterized by elaborate structure; they are capable of coordinated action and have their own culture, goals, norms, and values. These features of groups and societies reflect the interactions among individuals who collectively gather and process information, manage knowledge, construct a shared reality, converge on common attitudes and judgments, and collectively make decisions. In fact, the most astonishing achievements of humanity, culture, and science have been created in this process.

Building on this perspective, we argue in this book that human groups and societies are complex, distributed information processing systems. The quality of information processing in these systems directly translates to the well-being of social

groups and societies. The importance of the social aspects of information processing is also clearly visible on the level of an individual. When learning about new facts, interpreting and integrating knowledge, arriving at a judgment, or making a decision, individuals seek others for information, interpretation, and advice. Even if individuals reach an independent decision, they confirm their decision by consulting others. They also learn from others how to select, integrate, and evaluate information. The crucial ability to involve others in one's own information processing is determined by the individual's social capital (Bourdieu 1997) and group success (e.g., Coleman 1988; Putnam 2001; Fukuyama 2002).

The perspective of socially distributed information processing has not been lost on modern computer science, as reflected, for example, in the research on automatic recommendation systems. Our goal is thus to use the knowledge of social psychology to understand how the processes of distributed social information processing operate at the individual and the group level. We argue that the rules of social influence, which have received considerable attention in social psychology, describe how distributed social information processing works.

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