## **Contents**

	PREFACE	1)
CHAPTER 1:	The Connected Age	19
	EMERGENCE	24
	NETWORKS	27
	SYNCHRONY	30
•	THE ROAD LESS TRAVELED	3 5
	THE SMALL-WORLD PROBLEM	37
CHAPTER 2:	The Origins of a "New" Science	43
	THE THEORY OF RANDOM GRAPHS	43
	SOCIAL NETWORKS	47
	THE DYNAMICS MATTERS	50
	DEPARTING FROM RANDOMNESS	56
	HERE COME THE PHYSICISTS	61
CHAPTER 3:	Small Worlds	69
	WITH A LITTLE HELP FROM MY FRIENDS	70
	FROM CAVEMEN TO SOLARIANS	74
	SMALL WORLDS	78
	AS SIMPLE AS POSSIBLE	83
	THE REAL WORLD	92
CHAPTER 4:	Beyond the Small World	101
	SCALE-FREE NETWORKS	104
	THE RICH GET RICHER	108

## 0

	GETTING RICH CAN BE HARD	111
	REINTRODUCING GROUP STRUCTURE	114
	AFFILIATION NETWORKS	118
	DIRECTORS AND SCIENTISTS	121
	COMPLICATIONS	125
HAPTER 5:	Search in Networks	130
	SO WHAT DID MILGRAM REALLY SHOW?	132
	IS SIX A BIG OR A SMALL NUMBER?	135
	THE SMALL-WORLD SEARCH PROBLEM	139
	SOCIOLOGY STRIKES BACK	146
	SEARCH IN PEER-TO-PEER NETWORKS	156
HAPTER 6:	Epidemics and Failures	162
•	THE HOT ZONE	162
	VIRUSES IN THE INTERNET	165
	THE MATHEMATICS OF EPIDEMICS	168
	EPIDEMICS IN A SMALL WORLD	174
	PERCOLATION MODELS OF DISEASE	183
	NETWORKS, VIRUSES, AND MICROSOFT	187
	FAILURES AND ROBUSTNESS	189
HAPTER 7:	Decisions, Delusions,	
	and the Madness of Crowds	195
	TULIP ECONOMICS	196
	FEAR, GREED, AND RATIONALITY	198
	COLLECTIVE DECISIONS	201
	INFORMATION CASCADES	204
	INFORMATION EXTERNALITIES	207
	COERCIVE EXTERNALITIES	212
	MARKET EXTERNALITIES	213
	COORDINATION EXTERNALITIES	215
	SOCIAL DECISION MAKING	217

ER 8:	Thresholds, Cascades,	
	and Predictability	220
	THRESHOLD MODELS OF DECISIONS	221
	CAPTURING DIFFERENCES	226
	CASCADES IN SOCIAL NETWORKS	229
	CASCADES AND PERCOLATION	235
	PHASE TRANSITIONS AND CASCADES	239
	CROSSING THE CHASM	241
	A NONLINEAR VIEW OF HISTORY	244
	POWER TO THE PEOPLE	248
	ROBUSTNESS REVISITED	250
ER 9:	Innovation, Adaptation,	
	and Recovery	253
	THE TOYOTA-AISIN CRISIS	254
	MARKETS AND HIERARCHIES	260
	INDUSTRIAL DIVIDES	264
	AMBIGUITY	267
	THE THIRD WAY	270
	COPING WITH AMBIGUITY	273
	MULTISCALE NETWORKS	278
	RECOVERING FROM DISASTER	284
ER 10	The End of the Beginning	290
	SEPTEMBER 11	292
	LESSONS FOR A CONNECTED AGE	299
	FURTHER READING	307
	BIBLIOGRAPHY	341
	INDEX	257