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**Colour Plate One: Cartographic Production**  
*(On the inside front cover)*

### Section One Conceptualising Mapping 1

1.1  **Introductory Essay: Conceptualising Mapping, by Rob Kitchin, Martin Dodge and Chris Perkins**  
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1.2  **General Theory, from *Semiology of Graphics*, by Jacques Bertin**  
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The first formal specification for semiotic rules controlling the representation of different kinds of information in a graphical form.

17  
An important contribution to the status of maps and mapping reflecting on the need for cognitive and perceptual approaches to map design and cartography as visual communication.

1.4  **The Science of Cartography and its Essential Processes, by Joel L. Morrison**  
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An overview of cartography as communications science and justification for a progressive and experimental approach.

1.5  **Analytical Cartography, by Waldo R. Tobler**  
32  
An early call for a rethinking of cartography deploying a more analytical approach grounded in theory and deploying mathematical principles.
1.6 Cartographic Communication, by Christopher Board
One of the most complete discussions of the communications paradigm and the role of modelling the flow of cartographic information.

1.7 Design on Signs / Myth and Meaning in Maps, by Denis Wood and John Fels
A structuralist reading of cartography as a sign system exploring how codes operate to naturalise the cultural work of the map.

1.8 Deconstructing the Map, by J.B. Harley
An influential call for a more engaged, critical and social constructivist approach to mapping drawing upon notions of the map as a form of power knowledge.

1.9 Drawing Things Together, by Bruno Latour
Argues that visualisations play central roles in the practices of knowledge construction and establishes how the map might function as an immutable mobile.

1.10 Cartography Without ‘Progress’: Reinterpreting the Nature and Historical Development of Mapmaking, by Matthew H. Edney
Argues for an anti-progressive view of cartography as an assemblage in which different modes of knowing the world emerge from local contexts.

1.11 Exploratory Cartographic Visualisation: Advancing the Agenda, by Alan M. MacEachren and Menno-Jan Kraak
Sets out a research agenda for a more exploratory and interactive mapping emerging from technological and epistemological change of the early 1990s.

1.12 The Agency of Mapping: Speculation, Critique and Invention, by James Corner
A persuasive argument for the creative and emancipatory potential of mapping as a set of practices exemplified by work in architecture and planning.

1.13 Beyond the ‘Binaries’: A Methodological Intervention for Interrogating Maps as Representational Practices, by Vincent J. Del Casino Jr. and Stephen P. Hanna
A call to move beyond orthodox binary thinking and to adopt a more performative approach to mapping informed by feminist critiques.
Rethinking Maps, by Rob Kitchin and Martin Dodge  
Rejects the idea of mapping as ontic knowledge, focusing instead upon its processual and emergent qualities as a context-dependant and relational problem solving technology.

Colour Plate Two: Mapping the Internet

Section Two Technologies of Mapping

2.1 Introductory Essay: Technologies of Mapping, by Martin Dodge, Rob Kitchin and Chris Perkins

2.2 A Century of Cartographic Change, from *Technological Transition in Cartography*, by Mark S. Monmonier
A progressive overview of technological change in the first eight decades of the twentieth century, focusing upon the nature, combinations and rates of change in mapmaking.

2.3 Manufacturing Metaphors: Public Cartography, the Market, and Democracy, by Patrick H. McHaffie
Charts the connections between technological change and the labour process in the context of mass production of official mapping.

2.4 Maps and Mapping Technologies of the Persian Gulf War, by Keith C. Clarke
Explores the impacts of war on mapping technologies through a case study on United States military activity in the first gulf war.

2.5 Automation and Cartography, by Waldo R. Tobler
A pioneering consideration of the potential of using the computer in map data, storage analysis output and display.

2.6 Cartographic Futures on a Digital Earth, by Michael F. Goodchild
A view from the late 1990s reflecting upon the power of digital technology to widen access to mapping but also diminish traditional visual cartographic skills.

2.7 Cartography and Geographic Information Systems, by Phillip C. Muehrcke
Explores the emerging relationship between the map and GIS and considers what remains unmappable with GI technologies.
2.8 Remote Sensing of Urban/Suburban Infrastructure and Socio-Economic Attributes, by John R. Jensen and Dave C. Cowen 153
Considers how remotely-sensed technologies can supplement more traditional urban mapping practices.

2.9 Emergence of Map Projections, from Flattening the Earth: Two Thousand Years of Map Projections, by John P. Snyder 164
An overview of the changing form and deployment of map projections reflecting on the flexibility of computer processing facilitating diverse choices, but also the continuing limits on appropriate use.

2.10 Mobile Mapping: An Emerging Technology for Spatial Data Acquisition, by Rongxing Li 170
A paper from the late 1990s illustrating the potential of mobile data collection methods subsequently realised in consumer services like Google Street View.

2.11 Extending the Map Metaphor Using Web Delivered Multimedia, by William Cartwright 178
An illustration of how multi-mediated interaction can deliver new kinds of information design in game like and hyper-linked interfaces.

2.12 Imaging the World: The State of Online Mapping, by Tom Geller 185
Provides a snapshot of the state of mass interactive mapping-on-demand served from online corporate portals and community projects.

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3.3 Cartography as a Visual Technique, from *The Look of Maps*, by Arthur H. Robinson 215
Justifies the need for a visual approach to mapping, focusing in particular upon the design of thematic maps.

3.4 Generalisation in Statistical Mapping, by George F. Jenks 219
A consideration of the impacts of different kinds of generalization and classification on the patterns presented in quantitative cartography.

3.5 Strategies for the Visualisation of Geographic Time-Series Data, by Mark Monmonier 231
An early classification and conceptual framework for the consideration of mapping that simultaneously depicts time and space in an effective manner.

3.6 The Roles of Maps, from *Some Truth with Maps: A Primer on Symbolization and Design*, by Alan M. MacEachren 244
Reflects on the roles of design in decision making in the era of data exploration, confirmation, synthesis and presentation.

3.7 Area Cartograms: Their Use and Creation, by Daniel Dorling 252
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3.8 ColorBrewer.org: An Online Tool for Selecting Colour Schemes for Maps, by Mark Harrower and Cynthia A. Brewer 261
Describes the development and potential of an online tool for guiding appropriate selection of colour schemes for the representation of quantitative data in choropleth mapping.

3.9 Maps, Mapping, Modernity: Art and Cartography in the Twentieth Century, by Denis Cosgrove 269
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3.10 Affective Geovisualisations, by Stuart Aitken and James Craine 278
Highlights what can be learnt from film and suggests geovisualisations should engage more with affect and emotion.

3.11 Egocentric Design of Map-Based Mobile Services, by Liqiu Meng 281
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An influential and early clarion call for research into the roles people and their subjectivities play in the mapping process.

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An overview of behavioural geographic understanding of cognitive mapping that argues for the need for experimental investigation and establishes basic principles.

4.4 Natural Mapping, by James M. Blaut 318
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4.5 The Map as Biography: Thoughts on Ordnance Survey Map, Six-Inch Sheet Devonshire CIX, SE, Newton Abbot, by J.B. Harley 327
A personal reflection on the interplay between a single historic topographic survey sheet and the ways it narrates different biographical associations with place.

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An exploration of the cultural meanings attached to cartography through the map reading process that tracks the shift from a textual to visual view of the medium and considers the gendering of maps.
4.7 Mapping Reeds and Reading Maps: The Politics of Representation in Lake Titicaca, by Benjamin S. Orlove
A social anthropological consideration of tensions, actions and discourses involved in a local resource conflict and how maps and mapping are enrolled into cultural politics.

4.8 Refiguring Geography: Parish Maps of Common Ground, by David Crouch and David Matless
A reflection on how place emerges through a community mapping project which highlights the interplay of politics, aesthetics and practice.

4.9 Understanding and Learning Maps, by Robert Lloyd
An overview of changing trajectories of cognitive map research charting development from early psychophysical experiments to more nuanced theoretical work.

4.10 Citizens as Sensors: The World of Volunteered Geography, by Michael F. Goodchild
Describes and explains the nature and emergence of crowdsourced mapping and assesses its potential contribution to the social production of cartography.

Provides an empirical comparison of web mapping portals illustrating the potential of usability engineering as a tool to evaluate and improve interface design.

Colour Plate Five: Visualising the Efforts of Volunteer Cartographers

Section Five Power and Politics of Mapping

5.1 Introductory Essay: Power and Politics of Mapping, by Rob Kitchin, Martin Dodge and Chris Perkins

5.2 The Time and Space of the Enlightenment Project, from The Condition of Postmodernity, by David Harvey
An historical analysis of perspectivism and Cartesian rationality in cartography which facilitated capital accumulation.
5.3 **Texts, Hermeneutics and Propaganda Maps, by John Pickles**
400
A textual approach to cartographic power focusing on an interpretive case study of the cultural work of propaganda maps.

5.4 **Mapping: A New Technology of Space; Geo-Body, from *Siam Mapped: A History of the Geo-Body of a Nation*, by Thongchai Winichakul**
407
An insightful case study exploring the constitutive role of maps in the making of imaginative geographies of nationhood.

5.5 **First Principles of a Literary Cartography, from *Territorial Disputes: Maps and Mapping Strategies in Contemporary Canadian and Australian Fiction*, by Graham Huggan**
412
Examines the potential of cartography to control, but reminds us of the destabilising potential of maps in feminist and ethnic literature, serving as both texts and textual events.

5.6 **Whose Woods are These? Counter-Mapping Forest Territories in Kalimantan, Indonesia, by Nancy Lee Peluso**
422
Discusses how state interests deploy mapping as a powerful discourse, but also reveals the potential of counter-mapping by NGOs and local people.

5.7 **A Map that Roared and an Original Atlas: Canada, Cartography, and the Narration of Nation, by Matthew Sparke**
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5.8 **Cartographic Rationality and the Politics of Geosurveillance and Security, by Jeremy W. Crampton**
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5.9 **Affecting Geospatial Technologies: Toward a Feminist Politics of Emotion, by Mei-Po Kwan**
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5.11 Mapping the Digital Empire: Google Earth and the Process of Postmodern Cartography, by Jason Farman 464

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