

The background of the cover is a photograph of a large, complex mechanical structure, possibly a roller coaster or a large-scale industrial machine. It features a prominent yellow and orange track curving upwards towards a bright, circular opening at the top. The structure is supported by a network of blue cables and beams. Numerous blue spherical lights are suspended from the ceiling, creating a grid-like pattern of light points. The overall lighting is dramatic, with strong highlights and deep shadows.

# PHILOSOPHY OF TECHNOLOGY

AN INTRODUCTION FOR TECHNOLOGY  
AND BUSINESS STUDENTS

MAARTEN J. VERKERK, JAN HOOGLAND,  
JAN VAN DER STOEP AND MARC J. DE VRIES

# CONTENTS

<i>List of illustrations</i>	<i>ix</i>
<i>List of contributors</i>	<i>xi</i>
<i>Foreword: philosophy, technology, and glocalisation</i>	<i>xiii</i>
<i>Preface</i>	<i>xvi</i>

## **PART I**

### **Thinking and making 1**

- |  |    |
|--|----|
| 1 Thinking and technology: Between analysis and criticism                              | 3  |
| Portrait 1: Carl Mitcham (1941)  | 15 |
| 2 Speaking in a two-sided way: The meaning of disclosure and the disclosure of meaning | 18 |
| Portrait 2: Martin Heidegger (1889–1976)   | 35 |

## **PART II**

### **Making and designing 39**

- |   |    |
|---|----|
| 3 The world of technology: Three kinds of complexity  | 41 |
| Portrait 3: Lewis Mumford (1895–1990)                 | 59 |
| 4 The artefact [I]: Diversity and coherence           | 62 |
| Portrait 4: Alasdair MacIntyre (1929)                 | 86 |
| 5 The artefact [II]: Identity, function and structure | 89 |

Portrait 5: Gilbert Simondon (1924–1989)	106
Case study I: Nanotechnology	109
6 Knowledge of designing: The role of the engineer	115
Portrait 6: Herbert Simon (1916–2001)	131
7 Design and reality: Methodological obstinacy	134
Portrait 7: Bruno Latour (1947)	153
8 Technology and production: From dehumanisation to human measure	156
Portrait 8: Larry Hickman (1942)	182
Case study II: A new factory	185
<b>PART III</b>	
<b>Designing and thinking</b>	<b>193</b>
9 The rules of the game: Technology as a social practice	195
Portrait 9: Langdon Winner (1944)	211
10 Symmetries: Between pessimists and optimists	214
Portrait 10: Jacques Ellul (1912–1994)	236
11 Clashing worlds: Globalisation and cultural diversity	239
Portrait 11: Albert Borgmann (1937)	258
Case study III: Network enabled military operations	261
12 Homo technicus: From device to cyborg	267
Portrait 12: Don Ihde (1934)	285
13 ‘Good’ technology?: Normative artefacts and the web of responsibilities	288
Portrait 13: Egbert Schuurman (1937)	306
Case study IV: Innovation in health care	309
14 Expectations for the future: The secular sacred and the limits of technology	315
Portrait 14: Andrew Feenberg (1943)	330
<i>Index</i>	333