

CONTENTS

Abbreviations	xvii
Chapter 1. “New Media” and Marshall McLuhan: An Introduction	1
1.1 Objectives of This Book	1
1.2 The Methodology Employed and What the Reader Can Expect to Find in This Book	2
1.3 What Are the “New Media?”	5
1.4 The Changing Figure/Ground Relation With the “New Media”	8
1.5 A “New Media” Taxonomy	10
1.6 A Medium Is a Technology Is a Tool Is a Language Is a Medium Is a...	12
1.7 Standing on the Shoulders of a Giant	13
1.8 McLuhan on New Media	14

Part I. Methodological Considerations

Chapter 2.	McLuhan's Methodology: Media as Extensions of Man and Mankind	19
2.1	There Was Method in His Madness	19
2.2	A Summary of McLuhan's Methodology	22
2.3	Was McLuhan a Technological Determinist?	24
Chapter 3.	Five Communication Ages: Adding the Mimetic and the Interactive Digital Ages	31
3.1	Updating McLuhan's Three Communication Ages	31
3.2	McLuhan's Three Communication Ages: Oral, Literate, and Electric	32
3.3	The Origin and Evolution of Language	35
3.4	Refining the Distinction Between Oral and Written Communication	38
3.5	The Ecology of Media and Ecosystems as Media	40
Chapter 4.	To What Extent Do the "New Media" Confirm or Contradict McLuhan's Predictions	43
4.1	New Patterns	43
4.2	Laws of the Media and the Evolution of Technology	45
4.3	The Revival of Literacy With "New Media" and the Reversal of the Negative Effects of the Mass Media	47
4.4	New Media's Intensification of Trends McLuhan Identified for Electric Media	49
4.5	Faster Than the Speed of Light	54
Chapter 5.	The 15 Messages of "New Media": An Overview	57
5.0	Differences Between the "New Media" and Mass Media	57
5.1	Two-Way Communication	62
5.2	Ease of Access to, and Dissemination of, Information	63
5.3	Continuous Learning	64
5.4	Alignment and Integration	65
5.5	The Creation of Community	66

5.6	Portability	67
5.7	Convergence	68
5.8	Interoperability	71
5.9	Aggregation of Content	72
5.10	Variety, Choice, and the Long Tail	76
5.11	Reintegration of the Consumer and the Producer	77
5.12	Social Collectivity and Cyber-Cooperation	79
5.13	Remix Culture	82
5.14	The Transition From Products to Services	84
5.15	Instantaneous Feedback	85
5.16	A Comparison of Media Old and New Vis-à-Vis the 15 Messages of the “New Media”	86
5.17	User-Based Transformations of New Media	88
Chapter 6.	The “Digital Economy”: An Expansion of the Knowledge Economy	91
6.1	Introducing the “Digital Economy”	91
6.2	It Is All About Access, Not Possession	93
6.3	A Paradigm Shift From Information to Knowledge	94
6.4	Knowledge Management and the Web	95
6.5	Lifelong Learning: Job Security in the Internet Age	97
Chapter 7.	Scaffolding and Cascading Technologies and Media: Understanding New Media as the Extensions of Earlier Media or the Extensions of Extensions	99
7.1	Media as the Extensions of Man	99
7.2	The Evolution of Media and Technologies: Extending the Extensions of Man	101
7.3	Cascading Technologies and Media: Understanding New Media as the Extensions of Earlier Media or the Extensions of Extensions	106
7.4	What Is the Actual Content of a Medium?	107
7.5	Neo-Dualism and the Symbolosphere	108
7.6	Bifurcation of the Symbolosphere Into the Mediasphere and the Human Mind	109

Part II. How the New Media Have Impacted the Media
Analyzed in *Understanding Media (UM)*

Chapter 8.	The Spoken Word	115
Chapter 9.	The Written Word	119
9.1	Impact of “New Media” on the Written Word	120
9.2	Tertiary or Digital Orality	122
9.3	The End of Writing?	124
9.4	Interactive Text	125
Chapter 10.	Roads and Paper Routes	127
Chapter 11.	Number	129
11.1	The First Digital Revolution	129
11.2	The Invention of Zero	130
11.3	From Digits to Digitization	131
Chapter 12.	Clothing	133
Chapter 13.	Housing	137
Chapter 14.	Money	139
14.1	Impact of “New Media” on Money	139
14.2	The ATM	141
14.3	Ecommerce	141
14.4	Online Auctioning and Fixed-Price Sales	144
14.5	Online Shopping Payments, Credit Cards, and e-Money	147
14.6	The Sharing Economy, Also Known as the “Gig Economy”	149
Chapter 15.	Clocks	153
Chapter 16.	The Print	155
Chapter 17.	Comics	157

Chapter 18.	The Printed Word: Books and Libraries	159
18.1	The Impact of the “New Media” on the Book and the Academic Journal	160
18.2	Alternative Formats of Text	165
18.3	e-Books	166
18.4	Audio Books	168
18.5	Ezines	169
18.6	The Library—Digitizing and Searching the World’s Literature: The Impact of the “New Media” on the Library	169
18.7	The Components of the Vast Online Library That Is the Internet	174
18.8	The Flight of Books From Undergraduate Libraries	177
18.9	Libraries and Their Integration With Various Digital Tools	178
Chapter 19.	Wheel, Bicycle, and Airplane	179
Chapter 20.	The Photograph	181
Chapter 21.	Press (or Newspapers) and the News	185
21.1	Impact of “New Media” on the News	185
21.2	The “New” News Consumer	186
21.3	The “New” News Producers	188
Chapter 22.	Motorcar	197
Chapter 23.	Ads	201
23.1	Advertising on Mass Media	201
23.2	Advertising on the Internet, the Web, and Other “New Media” Venues	204
23.3	Online Viral Marketing and Native Advertising	207
Chapter 24.	Games	211
24.1	Electronic/Video Games	211
24.2	Social Impacts of Games	215
24.3	Gamification	217

Chapter 25.	Telegraph	219
Chapter 26.	The Typewriter	221
Chapter 27.	The Telephone	223
27.1	Impact of the New Media on the Telephone	223
27.2	Teletype and Fax	225
27.3	The Pager	226
27.4	VoIP (Voice Over IP or the Internet)	226
27.5	The Videophone	227
27.6	Telecoms and Convergence	228
Chapter 28.	The Phonograph and New Modes of Recorded Music	229
28.1	Impact of “New Media” on the Phonograph, the Tape Recorder, and Recorded Music Through MP3 Players, Tablets, Smartphones, and Streaming	230
28.2	The CD	231
28.3	MP3 Players, Tablets, iTunes, Smartphones, and Music Streaming	232
28.4	The Sony DRM Affair	236
Chapter 29.	Movies and Digital Videos	239
29.1	What Is a Movie? Digital Cinema and Internet-Based Videos	240
29.2	Effects of Digital Technologies on the Movies	240
29.3	iMovies	242
29.4	Movies and the Web	243
29.5	The YouTube Phenomenon	244
29.6	Vimeo	246
29.7	Vine	246
Chapter 30.	Radio	247
30.1	Impact of “New Media” on Radio	247
30.2	Satellite Radio	248
30.3	Online (Web) Radio	249
30.4	Podcasting	251

Chapter 31.	Television	255
31.1	Videotape and Television Production	255
31.2	The Remote Controller	256
31.3	Television and Education	257
31.4	Cable and Satellite Television	258
31.5	Globalization Versus Fragmentation	259
31.6	Online or Web Television	260
31.7	Interactive Television?	261
31.8	Digital Television and High-Definition TV	262
31.9	DVR (Digital Video Recorder)—A Television Revolution in the Making: TiVo and ReplayTV	263
Chapter 32.	Weapons	267
Chapter 33.	Automation (Plus the Factory)	271
	Part III. The Analysis of New Media Not Dealt With in <i>Understanding Media</i>	
Chapter 34.	Hybrid or Convergent Technologies	275
Chapter 35.	The Multifunction Printer, Photocopier, Scanner, and Fax	279
35.1	Impact of “New Media” on the Printer	279
35.2	The Scanner and OCR Software	280
Chapter 36.	Personal Computers	283
36.1	Introduction	284
36.2	Desktop, Notebook, and Ultraportable Computers	284
36.3	Netbooks	287
36.4	Chromebooks	288
36.5	Tablets	288
36.6	The Service and Disservice of Computers	288
Chapter 37.	The Smartphone	291
37.1	The Impact of “New Media” on the Telephone: The Emergence of the Cell Phone Followed by the Smartphone	292
37.2	Smartphone Services	293

37.3	Smartphone Morphology and Functionality	293
37.4	The Mobile Workforce	294
37.5	Unintended Impacts of the Smartphone	295
37.6	The Social Impact of the Video Capability of Smartphones	297
Chapter 38.	Computer Software	299
Chapter 39.	The Internet	303
39.1	A Medium of Media	304
39.2	Roots: The History of Pre-Electronic Proto-Internets	306
39.3	The Origins of the Internet	307
39.4	Oral Structure of the Internet	309
39.5	Discussion Groups on the Internet	310
39.6	Netocracy: The Ultimate Participatory Democracy	311
39.7	Electronic Crime and Punishment	312
39.8	The Internet and Commerce	312
39.9	Internet, Politics, and Social Movements	316
39.10	Art and the Internet	316
39.11	Internet Service Providers and Portals	317
39.12	Cloud Computing	319
Chapter 40.	E-Mail, Instant Messaging (IM), and Short Message Service (SMS)	321
40.1	Introduction	321
40.2	Instant Messaging (IM)	322
40.3	Short Message Service (SMS)	323
40.4	E-mail	323
40.5	Gmail	325
Chapter 41.	Bulletin Boards, Usenets, Listservs, and Chat	327
Chapter 42.	The World Wide Web	329
42.1	Emergence of the World Wide Web	330
42.2	The Service and Disservice of the Web	333
42.3	Web TV	334
42.4	Web 2.0	335
42.5	The Semantic Web	337

42.6	Folksonomy	338
42.7	Delicious	338
42.8	The Emergence and Evolution of the World Wide Web and Individual Web Sites	338
Chapter 43.	Social Media Including Twitter, Instagram, and Snapchat	345
43.1	Introduction	345
43.2	The Most Popular Social Media	347
43.3	Corporate and Business Social Networks	350
43.4	Twitter	351
43.5	The Five Most Popular Social Media Sites	351
43.6	A Novel Use of Social Networking	351
43.7	Are Social Media the Seventh Language?	352
Chapter 44.	Blogs	353
44.1	What Is a Blog?	353
44.2	The Blog as News Medium	355
44.3	Social and Psychological Impacts of Blogs	359
44.4	Non-Textual Blogs	362
44.5	The Blog Goes Mainstream	362
44.6	The Book	362
Chapter 45.	Search Engines Plus Google and Libraries	363
45.1	Search Engines	363
45.2	The Dominance of Google	365
45.3	Google's Competitors	367
45.4	Initiatives of Google Technologies Inc.	369
45.5	About.com—the Human Internet	371
Chapter 46.	Video Conferencing and Web-Based Collaboration Tools	373
46.1	Video Conferencing	373
46.2	Web-Based Collaboration Tools	374
46.3	Collective Intelligence	377
Chapter 47.	Virtual Reality (VR) and Simulations	379
47.1	What Is VR?	379
47.2	The Reality of Virtual Reality	381
47.3	Games and Role Playing on 3D Virtual Reality Platforms	381

Chapter 48.	Robots, Bots, and Agents	387
48.1	Robots	387
48.2	Bots and Software Agents	389
Chapter 49.	Artificial Intelligence (AI) and Expert Systems	391
49.1	What Is AI?	392
49.2	What Is Strong AI?	392
49.3	A Personal Critique of Strong AI	393
49.4	The Potential AI Exploitation of the World Wide Web	397
49.5	The Technological Singularity	399
Chapter 50.	“Smart Tags” and Dataspace	401
50.1	Bar Codes and Smart Tags	401
50.2	Dataspace	403
50.3	The Dataspace Enabler: Accessing, Navigating, and Searching Dataspace	404
50.4	The Future Convergence of Cyberspace and Dataspace and the “Smart Box”	405
50.5	The “Smart Tagged” Book That Is Smart, Readable, and Searchable	406
50.6	Is Dataspace the Eighth Language?	409
Chapter 51.	Enabling Technologies Not Dealt With in <i>Understanding Media</i>	411
51.0	Definitions	411
51.1	Electronics	411
51.2	The Mouse and the Graphical User Interface (GUI)	413
51.3	Haptic and Olfactory Technology	413
51.4	Hyperlinks, Hypertext, and Hypermedia	414
51.5	Modems and ADSL (Asymmetric Digital Subscriber Line)	415
51.6	Fiber Optics	415
51.7	Communication Satellites	416
51.8	Wi-Fi, Bluetooth, and FireWire	416
51.9	Open Source Technology	417
51.10	Wikis and Wikipedia	420

51.11 Ubiquitous Computing	422
51.12 RSS (Really Simple Syndication)	422
51.13 The Cloud or Cloud Computing	423
51.14 Moore's Law	423
 Appendix. McLuhan's Methodology: There Was Method in His Madness	 425
A.1 The Equivalence of Media and Technologies	425
A.2 Technology as Extensions of the Body and Media as Extensions of the Psyche	426
A.3 Media as Living Vortices of Power	426
A.4 Media Create New Social Patterns and Restructure Perceptions	426
A.5 "The Medium Is the Message"	427
A.6 The Content of Any New Medium Is Another Older Medium	428
A.7 Hybrid Systems	429
A.8 The Subliminal Effects of Media	429
A.9 The Counterintuitive Effect of Media	430
A.10 The Flip: Humankind as an Extension of Its Technologies	430
A.11 Societies Imitate Their Technologies	431
A.12 The Global Village	432
A.13 The Rear-View Mirror: History as the Laboratory of Media Studies	434
A.14 Three Communication Ages	434
A.15 Break Boundaries	435
A.16 Acoustic Versus Visual Space	436
A.17 Writing, the Alphabet, and the Printing Press	437
A.18 Fragmentation in the Age of Literacy	438
A.19 New Information Patterns Emerge at the Speed of Light	439
A.20 Centralization Versus Decentralization	440
A.21 Integration and Multidisciplinarity Versus Specialization	440
A.22 Hardware Versus Software and Information	440
A.23 Hot and Cool/ Light On Versus Light Through	441

A.24 Media Studies as Civil Defense Against Media Fallout	442
A.25 Understanding Both the Service and Disservice of New Media	443
A.26 The Absence of a Moral Judgment	444
A.27 The Myth of Objectivity	444
A.28 The Oral Tradition and Probes	445
A.29 Art as Radar and an Early Warning System	445
A.30 Obsolesced Technologies Become Art Forms	446
A.31 Multidisciplinarity	446
A.32 "Media Analysis" Versus "Content Analysis"	447
A.33 The Study of Interface and Pattern Rather Than a "Point of View"	448
A.34 Figure/Ground Relationship	449
A.35 The Reversal of Cause and Effect	449
A.36 The User Is the Content	450
A.37 An Anti-Academic Bias	451
A.38 Laws of the Media	451
References	455