
Contents

Preface	ix
Introduction	xi
Chapter 1. Typology of Prostheses and Interface Modes between Humans and Digital Systems	1
1.1. Interfacing humans and machines	3
1.2. Bionic prostheses as repairs to the body	10
1.3. Cognitive prostheses as an “augmentation” of the body	19
Chapter 2. Design and Distribution of Detachable Digital Prostheses	29
2.1. Constructing self-animated objects such as digital prostheses	31
2.2. Constructing simulated environments: virtual reality and augmented reality.	42
2.2.1. Cognitive prosthesis interfaces	43
2.2.2. Banalization of cognitive prostheses of augmented reality	48
Chapter 3. Cyber-utopianism	59
3.1. The emergence of a new vision of the relation between the living and the tool	60
3.2. The invention of an unusual technical apparatus: the infosphere	69
Chapter 4. Living with Digital Prostheses	75
4.1. The birth of a society that is constantly connected to a digital network.	78
4.2. Social isolation in a digital communication society.	89
4.3. “Enhanced human” or “shrunk human”?	113
Chapter 5. The Addictive Nature of Cognitive Prostheses	125
5.1. Cognitive prostheses and Internet addiction.	126

5.1.1. “Excessive use”, “disconnect anxiety” and feeling of dependency	126
5.1.2. Cybersex and the origin of Internet addiction	135
5.1.3. The figure of the <i>otaku</i> : suffering as a criterion defining addiction	140
5.2. Cognitive prostheses and electromagnetic radiation	142
Chapter 6. Cognitive Prosthetics and Social Engineering	147
6.1. To program or to be programmed	151
6.2. Hive mind	161
6.3. Uberization and monopolistic concentration fostered by the infosphere	162
6.4. The advent of techno-clergy and pseudo-divinities?	166
Chapter 7. Potential Pedagogical Impact of Massive and Excessive Use of Cognitive Prosthetics	171
7.1. Impact on cognitive development and children’s education	174
7.1.1. Indirect consequences of the educator’s digital consumption	177
7.1.2. The cognitive prosthesis as a nanny	179
7.1.3. The issue of broadcasted content with respect to children’s age	183
7.1.4. The need for a narrative suitable for a child’s age	189
7.1.5. Waste of learning time	192
7.2. Infantile <i>otakism</i> and academic problems	197
7.2.1. <i>Otaku</i> babies?	199
7.2.2. Cognitive prosthetics and school: massive weapons of distraction?	204
7.2.3. Deep attention, hyper attention and distraction.	210
7.3. Language and attention development disorders induced by excessive use of cognitive prosthetics	215
7.3.1. Autism spectrum disorders	217
7.3.2. Sedentary lifestyle, eating disorders and obesity	228
7.4. Treating attention disorders	230
7.4.1. Negative cognitive impacts are easily reversible in adults today	231
7.4.2. How to reduce the risk of autism spectrum disorders in children	235
Chapter 8. Body and Technology through the Concepts of the Cyborg and the Enhanced Human	241
8.1. The cyborg and the transhuman: enhanced human or “standardized human”	242
8.2. Limits inherent to the marriage between Metal and Flesh	244
8.2.1. Social inequalities	246
8.2.2. Intrusion	247
8.2.3. Loss of control	247
8.2.4. Cognitive overload	248
8.2.5. Alienation	248
8.2.6. Conformism	250
8.2.7. Hijacking, scams and hacking	251

8.2.8. Degradation in the reliability of information	252
8.2.9. “Goodbye to the body”	252
Chapter 9. The Economic and Environmental Impact and the Sustainability of Computer-based Prosthetics	255
9.1. The hyper efficiency of machines and the ecological question	256
9.2. The “survival” of Metal compared to the survival of the Flesh	257
9.3. Depletion of resources and raw materials	264
9.3.1. Transhumanist hypothesis	269
9.3.2. Posthumanist hypothesis	280
9.3.3. The environmental hypothesis	283
Conclusion	287
References	303
Index	327

